RAILROAD

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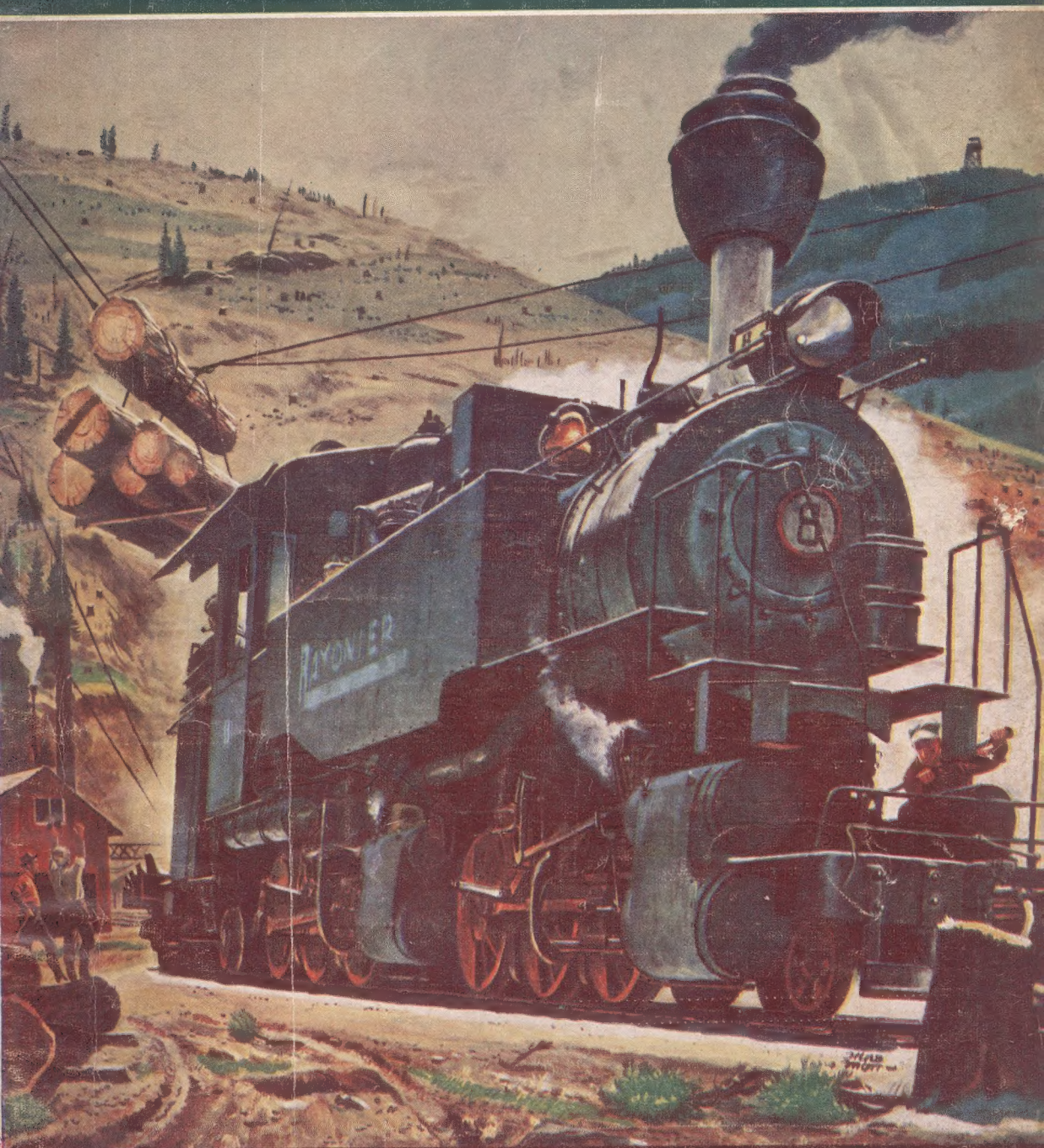

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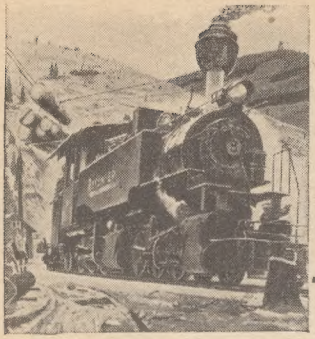

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Cover: *Lumber Pike Mallet*
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ILLUSTRATED FEATURES

Railroad Town.....*Story and Photos by Philip R. Hastings* 10
Railroad through the Redwoods.....*Jack R. Wagner* 32
Twenty Cars a Day.....*Don E. Hall* 50
Manchester Street Railway.....*O. R. Cummings and S. D. Maguire* 64

FICTION

The Frog Promoters.....*Henry Wilson Coil* 82

SHORT HAULS

Tunnel Troubles.....*Joseph Lee* 6
Along the Iron Pike.....*Joe Easley* 30
Locomotives of the Nickel Plate..... 100
Fiddletown & Copperopolis Ry. *(No. 60)*.....*Carl Fallberg* 108

DEPARTMENTS

Information Booth.....*Conducted by Alfred Comstock* 57
Carbarn Comment.....*Conducted by Ted Sanchagrin* 77
The Little Pike.....*Paul N. White* 94
On the Spot..... 106
Railroad Hobby Club..... 126

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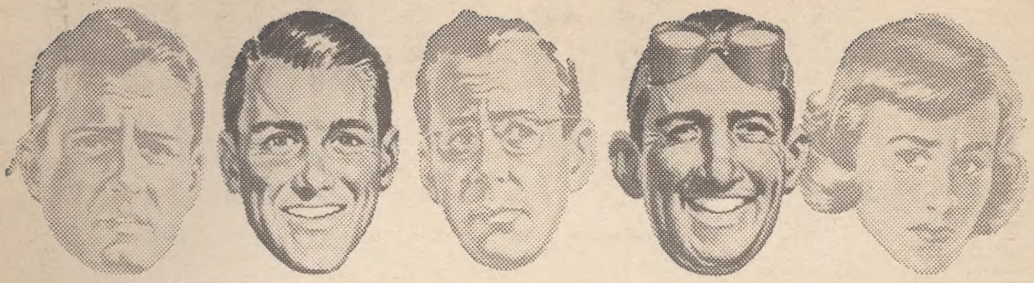

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TUNNEL TROUBLES

JOSEPH LEE

MAN, was I happy? After three months of yard braking for the Pennsylvania Railroad, and another two years or more of road work on dirty steam engines, I had accumulated enough seniority to be able to hold down a road job using electric engines for power.

No more dirty L1 *Mikados*, slow moving and draughty, and in which as head brakeman I had to pull coal down into the stoker worm when it was running low. No more big M1s with their cold and draughty doghouses set atop the long, 16,000 gallon tender. From now on it would be neat boxcars, the P5, or the modified P5, and even an occasional set of GG1s when our tonnage warranted.

This new job was the MD13 southbound from Greenville to Potomac Yards, and the MD6 northbound over the same route. Our signup time in "Pot Yards", as they were familiarly called, was 2:30 a.m., so that we usually got into Jersey City about noon on an average trip.

This one night, after I had made about six round trips, we left Pot Yards about four in the morning, with our usual load of about 112 cars. It was a muggy night in May, with a low hanging cloud ceiling, and high humidity. All you had to do was walk and the sweat started to run. With the heavy overalls I was wearing, I was soaking wet by the time we had tested the air.

Our crew was Conductor Ernie Perry, engineer Will Reiman, and an extra flagman, Harry Marsh. We had two motors as power: the 4765 and the 4750, but I am not sure now whether they were the boxcar or modified type. Our first scheduled stop leaving the Yards was Greenville.

The first hint we had of trouble was when we came off the north end of the Long Bridge over the Potomac River, as we started around the curve and down a slight grade to the subway tracks through the city of Washington. The air suddenly whanged into emergency, the sound we all hated to hear. At the time Perry was writing up his car reports, and I was on the opposite side of the engine cab starting to tear into my lunch. We looked at the train-line gage in our end of the cab, and saw it wasn't going to get back to the 70 pounds normal pressure. I went back to see what the trouble was, while Ernie went up to the engineer's end of the motor to confer with Will.

Thirty cars from our head end I found the trouble—a low coupler had come apart. The knuckle in the car ahead was normal height, but the bad one sagged at least four inches below that. When we had bounced over some of the switch frogs in the neighborhood, the low coupler had dropped and the train had parted. It took only a few minutes to get back in condition to roll, and after reporting the affair Perry said we would take the train over to Landover, north of the Virginia Avenue tunnel, where the car knockers could shim up the drawhead. Will tested his air and we got under way again, the four of us on the head end riding in the cab.

Reiman dipped the train into the tunnel, which was about a half-mile long, with a slight sag in the middle and a curve to the left. We were all tense as we went through the bore and were just beginning to breath easier as the head end cleared the north exit. We got about thirty car lengths out of the tunnel and the air went on again.

I GUESS everybody in the cab started to swear at the same time, but we all knew it was just to relieve the tension. Perry and I unloaded from the cab and started for the rear again, checking all the

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air hoses and couplings. We were pretty sure it was the same low drawhead, and when we got to that car we found we were right. Ernie went up ahead once more to phone in and report to the dispatcher while I cut off the anglecock, and got the train recoupled. It was daylight by then, and I stood by the following car waiting for the train line to be pumped up and a brake test made. I guess I would have been waiting there yet, because that train line obviously wasn't going to pump up. That was fine, the trouble was definitely in the portion of the train that was lying in the tunnel. And that tunnel wasn't made for walking through when a train was in it.

It was a round-roofed affair, with brick walls and roof, containing a single track (which our train occupied). There was a waist-high ledge along the east side, but it was impossible to walk on it because it also contained several conduits for wires, which took up most of the walking space. Besides, the roof curved overhead rather sharply. There was about two feet of clearance on the side of the train away from the ledge, and that was occupied by a drainage ditch full of muddy water, to a depth of at least six inches. The few lights in the tunnel were about 90 feet apart and couldn't be seen from 30 feet away, they were so dirt-encrusted.

But these few things weren't the worst of our troubles. The heavy air made breathing difficult, and then too, a B&O freight had gone through just ahead of us.

Ernie and I skidded, slipped, climbed, swore, sweated, choked and gasped, and gradually got back to where the other trouble had occurred. Most of the way we walked on the edges of the ties, with our backs against the wall, leaning over the drainage ditch. Believe me it was a slow process.

After all that trouble getting to the break, we were practically sure that it would be some big thing, probably a drawhead pulled out. We hit the bad car, a reefer full of oranges from Florida, and found it had a broken knuckle. Well, that wasn't too bad, as we were only about 15 car lengths from the rear end. Perry went over to a phone to let the dispatcher know of our little difficulties, while I got a spare knuckle out of the cab locker. The dispatcher ordered a maintenance crew to shim up the low drawhead on the first car we'd had trouble with, and also to help with the coupling of the broken one. But by the time they got there, I had slipped and skidded my way back to the break with the knuckle and installed it, after blistering the sides of the tunnel with more swear words from having that knuckle wear grooves into various portions of my anatomy.

We didn't have to walk back to the head end through the tunnel, as we managed to get a ride back with the car knocker's truck and as soon as they got the low drawhead shimmed up with a tie plate and several spikes, we were on our way again.

We knew we wouldn't have any more trouble that trip, because we had had our three accidents—the number which always turned up in any series of mishaps on any railroad. Ask any railroad man!

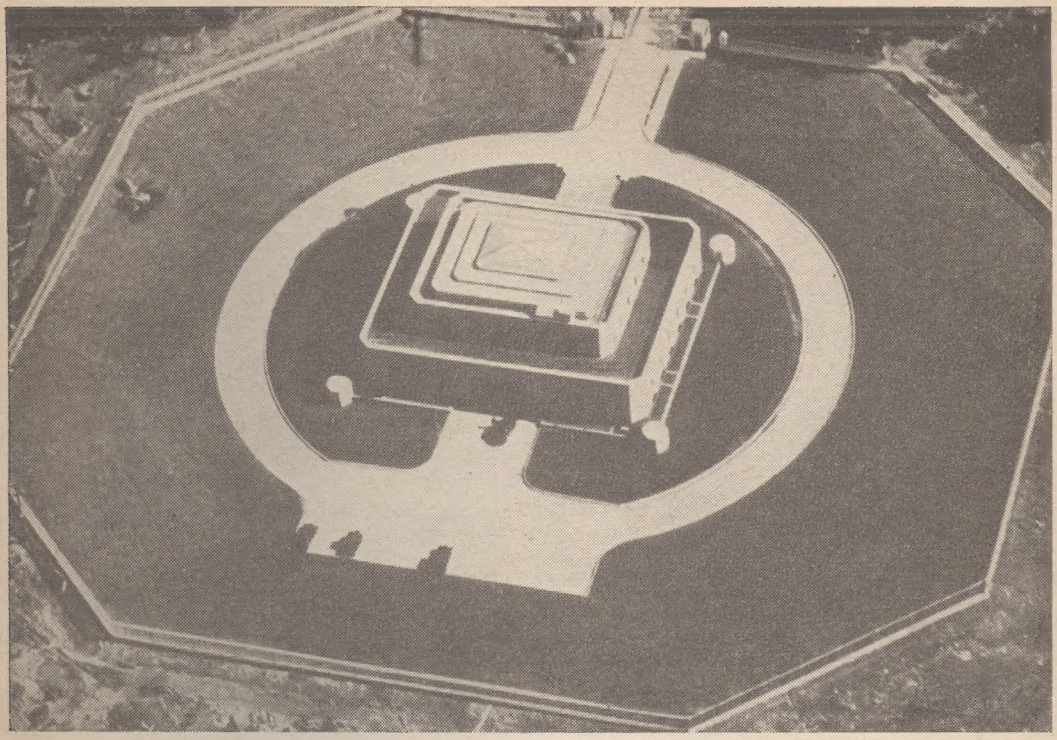
RAIL ODDITIES

Three railroaders—a Westerner, a Yankee and a Southerner—were discussing their respective regions. "Out in Idaho," said the Westerner, "you can board a train and, without changing cars, travel from Cornell to Vassar, Stanford, Yale, Harvard, Princeton and Wellesley in a distance of thirty-five miles."

"Well," drawled the Yankee, "back in Maine, where I came from, with a few changes of cars, you can travel by rail from Calais to Dover, from Peru to Stockholm, from Paris to Lisbon and Poland to Norway."

"Aw, shucks." drawled the Southerner, "that's nothing to brag about. Why, when I was a lad in Florida one could travel by railroad from Venus to Mars and Jupiter —all within a single county!"

And they all spoke the truth. —Rock Island News Digest



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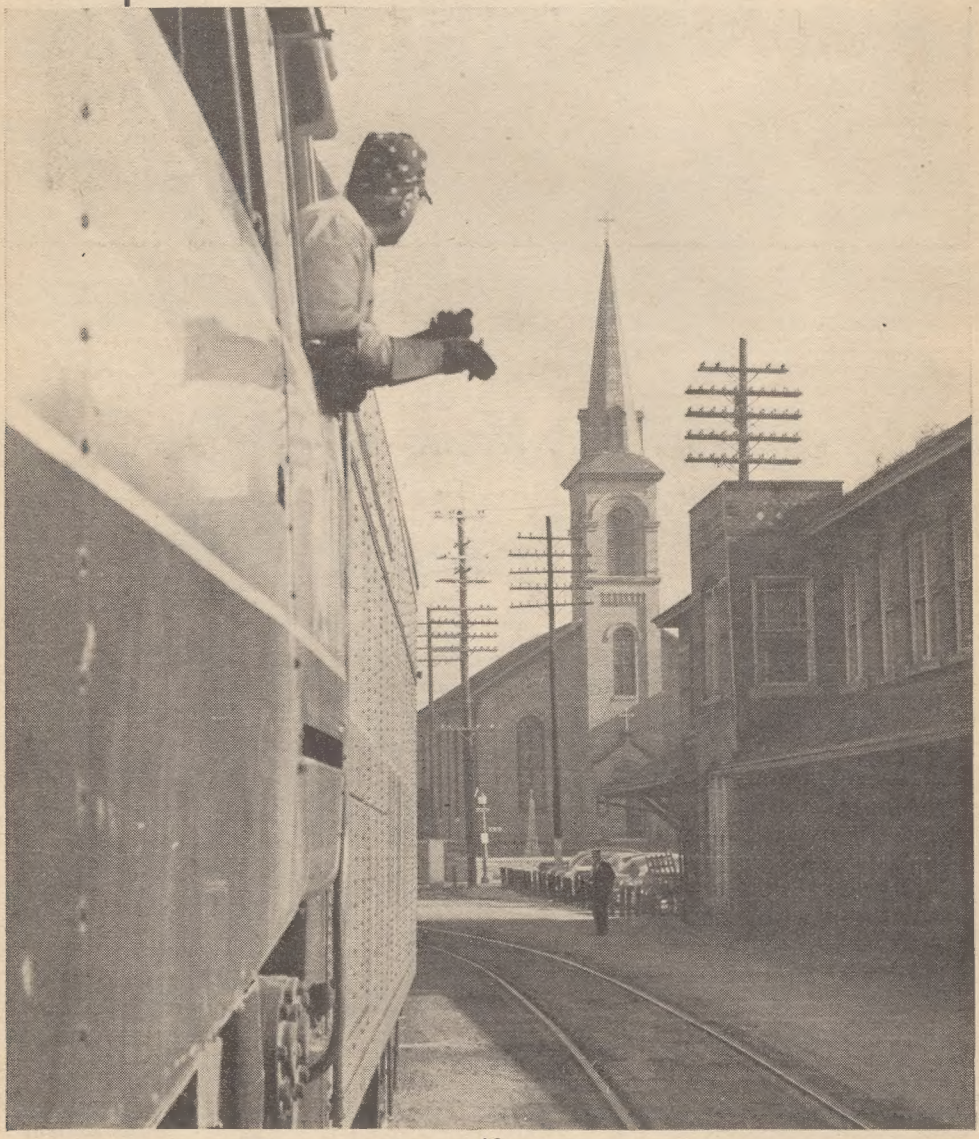


Story and Photos by

PHILIP R. HASTINGS

Jonathan Hager's Colonial Homestead Early Became A Railroad Center, And It's Still Going Strong

RAILROAD was a word unknown to Jonathan Hager when, in 1737, he pioneered a homestead in the wilderness of America's then western frontier. Yet he was, by his very choice of a site, unwittingly establishing an important junction city of railroads for future generations.

The broad valley Hager chose for his sturdy log hutment was of such encouraging agrarian promise that he named his location "Hager's Delight." This fertile vale, paralleling the eastern seaboard behind the length of the Blue Ridge Mountains, became known as the Cumberland Valley in Pennsylvania and as the Shenandoah Valley in Virginia. In Hager's day utilized principally as a warpath between northerly and southerly Indian tribes, the valley eventually attained vital importance as a main avenue of commerce, connecting the mines, fields and forests of the South with the industrial Northeast.

A few miles below Hager's cabin, his broad valley was transsected by a narrower intervale, the mouth of the Potomac River. This serpentine passageway through the Appalachian Mountains was the original outlet for colonial expansion inland, and has become an increasingly important thoroughfare since its earliest use, as the most direct route between the east coast cities of Baltimore and Washington and the West.

Jonathan Hager's settlement is now the prosperous city of Hagerstown, third largest in the state of Maryland. The development of the city has been closely

NORTH JUNCTION, leaving Hagerstown. A Western Maryland "fast freight" heads for tidewater at Baltimore's Port Covington Yard. Diesel is crossing 112-year old roadbed of Hagerstown's pioneer pike, the Franklin Railroad, now PRR

integrated with and dependent upon the paving with steel rails of the intersecting geographical pathways in which it lies. Today Hagerstown is a railroad center of extensive regional significance.

At the close of the Revolutionary War, Hagerstown was a local trading center of some thousand inhabitants, and a stage stop on the National Road, the main wagon route to the west. Outstanding as this now-famous highway was for its time, the newly completed Erie Canal was superior as a transportation medium and began to draw the flow of western trade from Maryland up into New York. The consternation in Baltimore waxed considerable, but the merchants of that mighty seaport finally sensed salvation in that engineering prodigy of the day, the rail road. Accordingly, they were in active attendance at the inception of the Baltimore & Ohio Company, and lent aggressive support to its construction westward toward the Alleghenies. By 1834 the new railroad had reached Harper's Ferry, where it crossed the Potomac River and dipped down into West Virginia.

Hagerstown immediately began making plans for its own railroad north up the Cumberland valley to divert its trade to Philadelphia. In 1841 a Franklin Railroad train of "large and elegant cars" left Hagerstown under doubleheaded steam to initiate regular passenger and freight service to Philadelphia via Chambersburg, Pa., and the Cumberland Valley Railroad. Apparently the burghers of Hagerstown had more enthusiasm than resources, for the new railroad rapidly fizzled out and was auctioned off for six hundred dollars in 1849. For the next ten years it made a bare pretense of operation, intermittently running the galloping goose of the day, a dobbin-powered cart, over its decaying wood and strap-iron rails.

Meanwhile the area continued a slow but steady growth and in 1859 the Cumberland Valley Railroad quietly acquired the Franklin Railroad, rehabilitated it, and found five thousand barrels of flour awaiting rail transportation at Hagerstown. Again traffic began to flow northward toward Philadelphia, and this time the diversion of tonnage really began to be felt in Baltimore. In 1861 that city endorsed a half million dollars worth of Western Maryland Railroad bonds to ensure the extension of WM Hagerstown as quickly as possible. The Civil War delayed construction, but the refurbished ex-Franklin Railroad became an important southern outpost of the Union Army rail network and Hagerstown gained the uncomfortable distinction of being a critical supply point throughout the so-called Railroad War. Being practically at the ill-defined border between North and South, the town was exposed to the ebb and flow of battle, and the bloodiest engagement of the entire war took place at nearby Antietam.

The war left the community weak and debilitated, and the Western Maryland was still several years away on the far side of South Mountain, toward Baltimore. Enmity toward the coastal metropolis had largely evaporated and the merchants and farmers of Hagerstown realized that they were hurting themselves by paying freight the longer distance to the Philadelphia market, so interest renewed in getting a rail connection with Baltimore.

COMPLETION of a spur line from the Baltimore & Ohio near Harper's Ferry brought Hagerstown its second railroad, and the long-coveted link with Baltimore, in 1867. This event brought considerable business revival from the post-war slump, but was largely outshone by the final arrival of the Western Maryland five years later, in 1872.

Hagerstown now had a direct, cross-country line to Baltimore, sixth largest port in the world and burly industrial giant of the middle Atlantic seaboard. The immediate effect was to add five cents a bushel to the value of wheat on the Hagerstown market. A year later the Western Maryland had extended another few miles west and had effected a transfer point with the Chesapeake & Ohio Canal. This connection started a flow of coal from the

West Virginia fields through Hagerstown to eastern industrial centers, a traffic which has multiplied to vast proportions in the present day. The volume of transfer from the canal proved disappointing, however, and the bulk of the coal traffic developed as the Western Maryland was continued westward during the latter two decades of the century.

With railroads north, east and west it remained only for Hagerstown to acquire a connection south down the Shenandoah Valley into the booming Southland. When the first train of the Shenandoah Valley Railroad did pull into town in 1880, it ushered in the greatest boom thus far in the fortunes of the growing city. In the following five years the population doubled, real estate values soared and a fine group of substantial buildings was erected. Contemporary historians largely congratulate the Shenandoah Valley road for this prosperity, completing as it did the last link in the "great East Tennessee, Virginia and Georgia Air Line" (now Norfolk & Western) and making Hagerstown a transfer point on a through North-South route. The Shenandoah Valley brought its general offices to Hagerstown but they were not there long before that road became the Shenandoah Division of the Norfolk & Western, and the offices were removed to Roanoke.

At the onset of the Twentieth Century, the spotlight returned to the Western Maryland and has pretty much remained there ever since. Thanks to the ministrations of its most noted president, John Mifflin Hood, the property was in top shape and the through coal traffic from the West Virginia fields had become considerable. Washington County, of which Hagerstown is the seat, took advantage of the bullish market and sold its Western Maryland holdings, freeing itself from debt incurred in support of railroad construction for the first time in forty years, and also realizing a substantial profit. Shortly prior to the first World War, the Western Maryland completed its westward expansion to Connellsville, Pa., tying its heavy roadbed to that of the P&LE and the P&WV to create the shortest rail route between Baltimore and Pittsburgh.

The railscape in Hagerstown today is dominated by the Western Maryland, whose main shops and elongated classification yards are the largest single employer of the city's inhabitants. Over one hundred locomotives are dispatched daily from its modern engine terminal near outstandingly attractive City Park, in the northwest corner of town. Although operations eastward to Baltimore and York, Pa. are practically one hundred percent dieselized, many of these engines are steam, with braces and even squads of chunky *Consolidation* and *Decapod* bruisers running a constant shuttle service to help the steady stream of freights up Williamsport Hill from the Potomac Valley. The classification yards are powered by Baldwin road switchers in tandem. Here the long coal drags are split five ways—among the Pennsy, the Reading and three alternative Western Maryland routings north and eastward. Returning empties are consolidated in a hump yard, which uses the natural westward slope toward the Potomac as a drift grade.

Next most active in Hagerstown is that exclusively siderod and smokestack road, the Norfolk & Western. Its up to date *Mallets,* rugged individualists in an age of reaction, hustle coal and cotton up the Shenandoah Valley and into Shomo Yard for transfer to the Pennsylvania and the Western Maryland. Terminal facilities of the erstwhile Shenandoah Valley Railroad are considerably less well endowed than those of the "Fast Freight Line," just outlined. The N&W does not even maintain an engine house in Hagerstown, much less an acreage of shops, since locomotive maintenance here is on a turnaround basis. Hagerstown is at the tip of the Shenandoah Division and motive power is based at Shenandoah Yard, some hundred miles down the valley. The N&W shares the Pennsy's modest engine terminal, an abbreviated layout vastly overshadowed by the adjacent Western Maryland plant. N&W locomotives never even venture inside the barren, five-stall

segment of a roundhouse in their brief pause for fuel, water and light running repairs. The one outstanding feature of the facility is the tall concrete coal tower, which appears not to be in the least danger of replacement by a fuel oil tank.

THE PRR is usually more poorly represented in its own engine yard than its guest, a brace of L-1s and a couple of diesel switchers being a typical population. To Hagerstown and return over the former Cumberland Valley Railroad (including the 112-year old Franklin Railroad right-of-way) is an engine run for road diesels out of Harrisburg, so there is no call for expensive power to tarry. Although the Pennsy handles all the switching and transfer work for Shomo Yard, the engines are diesels and consequently they do not spend much time around the house. A daily freight down the 42-mile PRR branch to Winchester, Va. is handled by one of the heavy switchers, leaving one plug run to Harrisburg, plus spare work, for the L-1s.

The Baltimore & Ohio's branch from its main line at Weverton, on the Potomac, is another one hundred percent steam line in town but it doesn't pose much of a smoke problem because it supports only one or two daily freight round trips. The Q-4 class *Mikado* is stationed at Brunswick yard, so the only service facility in the little yard fronting on historic Antietam Street near the center of Hagerstown is an armstrong turntable. A slender water pipe is located on the outskirts of the city in an improbable spot near the end of a bridge. Other B&O power, including the system's all-time steam heavyweights, the EM-1 2-8-8-4s, enters Hagerstown with interminable coal drags over the Western Maryland from Big Pool Junction, twenty miles west of town. These locomotives are serviced at the Western Maryland terminal and are never on B&O rails in Hagerstown.

Trackage of the Reading Railway stops thirty miles short of Hagerstown, up the Cumberland valley, but stalwart *Poconos* and green-trimmed diesels bearing the Reading hallmark are seen in the Western Maryland yard every day in the year, in quest of hoppers of coal for the furnaces of Bethlehem, Allentown and Reading. The Reading utilizes both rail routes between Hagerstown and Shippensburg, Pa.; the Pennsylvania and the Western Maryland trackage. Reading power, like that of the B&O, is serviced at the capacious WM terminal.

Rail passenger service in Hagerstown presents a sad shadow of former days. Eight daily runs contrast with the more than fifty of two generations back, when the dining room of the Pennsylvania-Norfolk & Western depot was an institution of formidable repute. Of these, six are in serious doubt of continuation at present writing. The Western Maryland has petitioned to cancel all passenger service through Hagerstown, including morning and evening trains to and from Baltimore, one of which originates in Cumberland, Maryland's westernmost metropolis. Thus the apparent demise of a service which at one time offered a deluxe through train between Chicago and Baltimore. The Norfolk & Western also has filed a request to convert Train 13-14, a daytime round-trip from Hagerstown to Shenandoah, Va., and back, into a mixed run. Hagerstown's only other passenger train is the night PRR-N&W run between New York City and Roanoke, Virginia. This run, conservatively endowed with standard equipment and flag stop-sprinkled schedules, is uncommon only in that it is powered by the streamlined K-2 *Mountain* types on the N&W side. The same locomotive assigned to the night train, incidentally, hauls the day local to Shenandoah and back during its layover at Hagerstown.

Such, then, is the railroad situation in Hagerstown, a junction city by virtue of its location at a geographical crossroads of commerce. Coal is king of traffic, and the Western Maryland is prime minister, but the Norfolk & Western is queen of steam. The Pennsylvania, the Baltimore & Ohio and the Reading are also in the picture, but those who wish to ride the cars are largely out of it.

ARMSTRONG turntable is the only engine facility in the B&O yard. Q4 No. 4145 is kept at Brunswick Yard, down on the main line, and requires no servicing during its brief round trip to Hagerstown. Hog takes water from standpipe on the outskirts of town

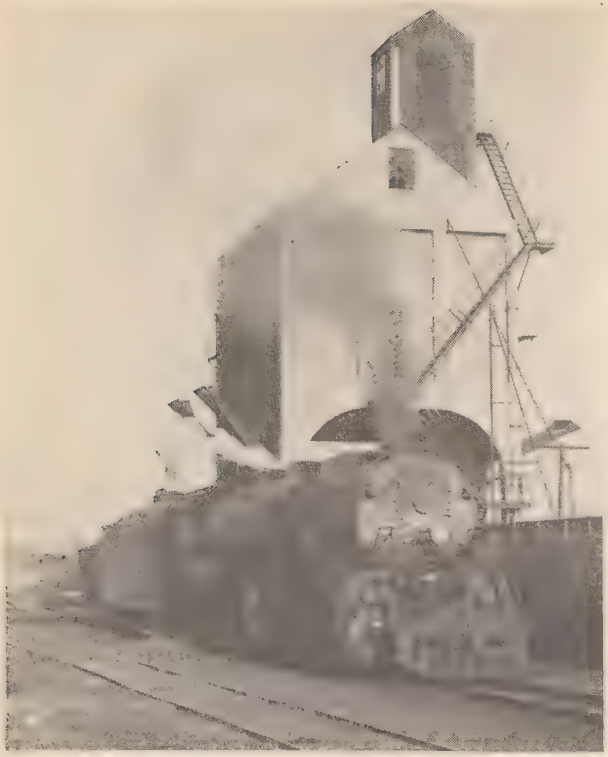
HUDDLE. Reading Poconos are seen in Hagerstown daily, below, where they are turned and serviced at Western Maryland engine terminal, which also cares for transient B&O power. Tender of a B&O EM1 2-8-8-4 is seen at left. Engine 1127 is a WM 2-10-0, used in pusher service on Williamsport Hill

RAILROAD ROW. Residents along Hagerstown's Foundry Street can keep close tabs on the Western Maryland, since its main line runs right past their front stoops. Automobiles use what's left of pavement. Train 2 is here departing for Baltimore

TRAIN 2 arrives from Cumberland, below, and will shortly proceed on to Baltimore. Capacious station once was way stop for many varnish consists, including Chicago Limited and Baltimore Limited, now sees only four trains daily. All passenger service will soon be suspended by the Fast Freight Line, if ICC approves

SHOMO YARD is switched by a mixed team composed of Fairbanks-Morse and Baldwin diesel switchers. PRR handles all switching and transfer work in this yard which is used jointly by PRR and N&W. Below: Six miles of track from Hagerstown down to Potomac at Williamsport is pounded by a nearly constant parade of movements. When a heavy freight is not struggling upgrade, a string of helper engines is drifting back down for another mainliner

CUMBERLAND VALLEY. From North Junction, a Reading 4-8-4 heads north with a drag of soft coal for the furnaces of industrial eastern Pennsylvania. Roadbed is Western Maryland's; tracks diverge here, those on the right going to Baltimore, those to the left to Shippensburg. Below: Train 104 leaves Hagerstown, returning from Baltimore on Sunday-only round trip. Pacific 201 is one of nine identical passenger units built by Baldwin in 1912 for Western Maryland



PRINCIPAL feature in the N&W-PRR engine terminal is this concrete coal tower, which is kept busy by N&W's 100 percent steam stud. Fueling up for return trip to Shenandoah Yard is Y6b 2173, a true compound of completely modern design, built only five years ago

PROFILES. PRR and N&W steam power face each other in joint engine terminal at Hagerstown. Pennsy LI No. 1349 is used on local freight between Hagerstown and Harrisburg, Pa. N&W Y6b on right handles heavy coal and merchandise manifests down Shenandoah Valley

FIRST 96 of the N&W highballs into the limits of Shomo Yard on a Saturday morning with light weekend tonnage. Y6b on head end, No. 2141, barely antedates World War II. N&W trackage up the Shenandoah Valley connects with the PRR at Hagerstown for through link between the South and the industrial Northeast

SECOND 95 departs south on a Saturday evening with barely its immense locomotive's weight trailing behind. Y6b compounds have more tractive force than any other single motive power unit of any type on any American railroad. Normally the 2-8-8-2 would be trailing a mile or more of empty hoppers

READING Pocono type heads a drag of West Virginia bituminous coal north out of Hagerstown, bound for Rutherford Yard up across the Susquehanna River in Pennsylvania. On WM iron, No. 2112 is here about to cross PRR tracks at North Junction

TOWERMAN'S VIEW OF WM-PRR interlocking at North Junction. Heavy switchers like WM's 1500 hp. Baldwin at crossing are required at Hagerstown because of the extensive transfer work in long coal drags between five railroads in town, also because of grade in classification yards

SHOMO YARD, and Train CV60 leaving for Harrisburg. LI No. 776 handles this daily local freight. Heavier through freights on the former Cumberland Valley Line are now hauled by PRR diesels. Shomo is PRR-N&W transfer point on north-south through rail route

POSITION LIGHT signal at Wilson Boulevard is characteristic of both PRR and N&W practice in Hagerstown. Steam power here means a local or extra freight, for diesels run the regular jobs from Harrisburg's Enola Yard down the Cumberland Valley to Hagerstown and back

DECAPODS 1113 and 1127 shove a heavy one up Williamsport Hill into Hagerstown Yard. Headender is a 4-8-4. Class 12 2-10-0s are heaviest ever built, with greater t.e. than 4-6-6-4 simple articulateds

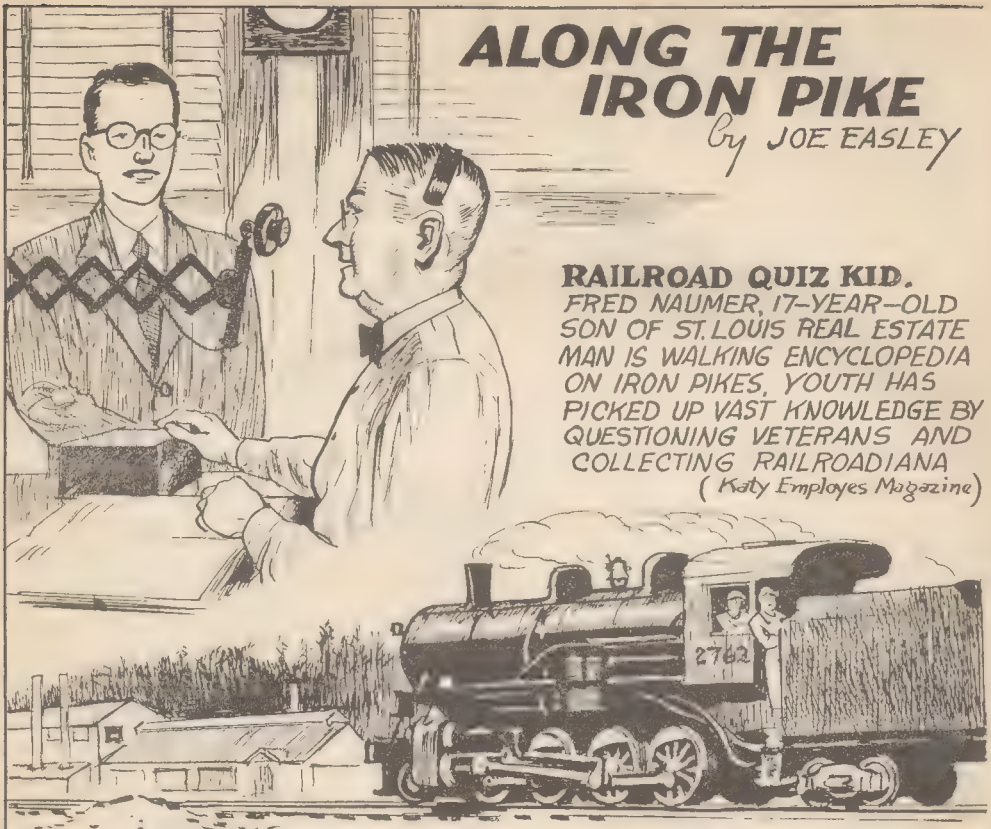
BUSY MOMENT. With over 100 locomotives dispatched daily, throat of the WM engine terminal is frequently occupied by moving engines. Left to right, steamers are B&O EM 1 2-8-8-4 (tender view), WM 2-10-0s Nos. 1113 and 1127, WM 4-8-4 No. 1404. Diesels are B&O and WM F3s.

ORCHARD RUN. B&O daily mixed passes through Cumberland Valley verdure, nearing Hagerstown. Line joins with B&O at Weverton, was first connection between Hagerstown and Baltimore. Completion of WM in 1872 shortened distance to Baltimore by about 20 miles

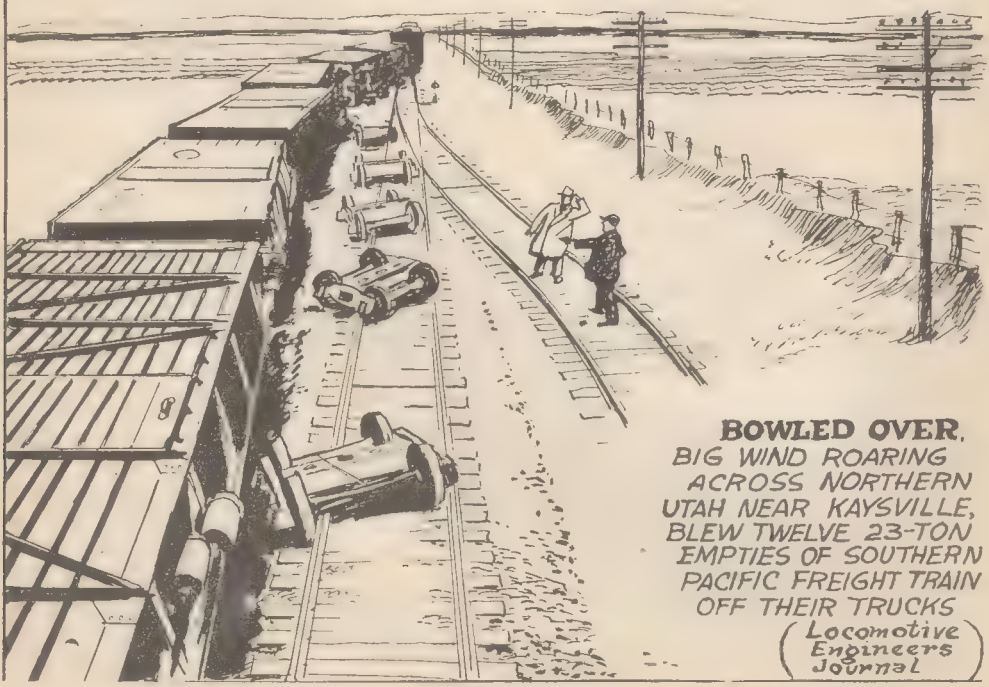
TRAIN 13 crosses Wilson Boulevard at start of 106-mile run to Shenandoah, Va. Same K2a Mountain type will return to take night train to Roanoke. N&W has only four passenger runs into Hagerstown

ALONG THE IRON PIKE

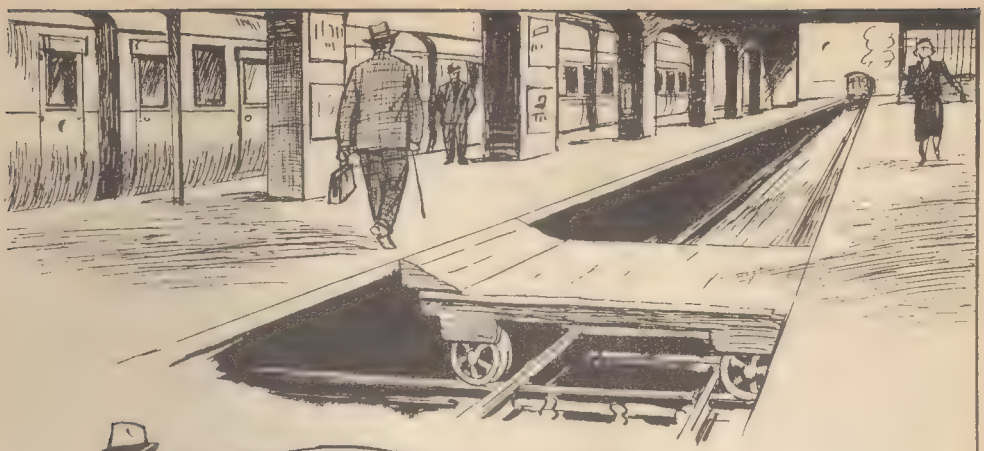
by JOE EASLEY



RAILROAD QUIZ KID. FRED NAUMER, 17-YEAR-OLD SON OF ST. LOUIS REAL ESTATE MAN IS WALKING ENCYCLOPEDIA ON IRON PIKES. YOUTH HAS PICKED UP VAST KNOWLEDGE BY QUESTIONING VETERANS AND COLLECTING RAILROADIANA (Katy Employes Magazine)

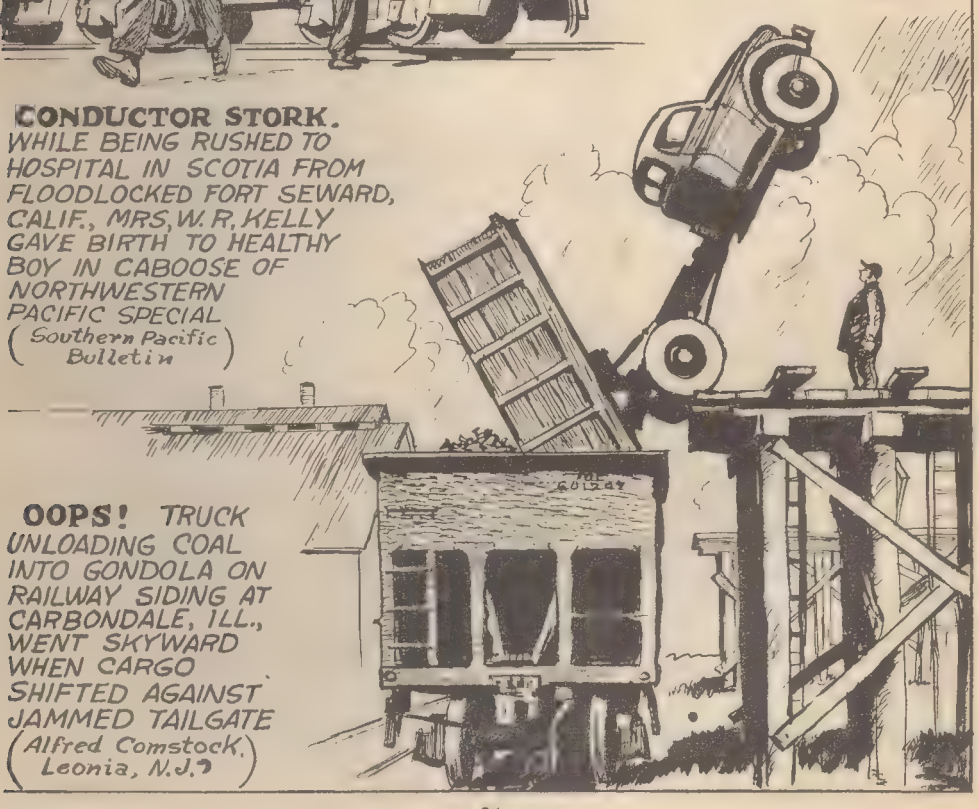


BOWLED OVER. BIG WIND ROARING ACROSS NORTHERN UTAH NEAR KAYSVILLE, BLEW TWELVE 23-TON EMPTIES OF SOUTHERN PACIFIC FREIGHT TRAIN OFF THEIR TRUCKS (Locomotive Engineers Journal)

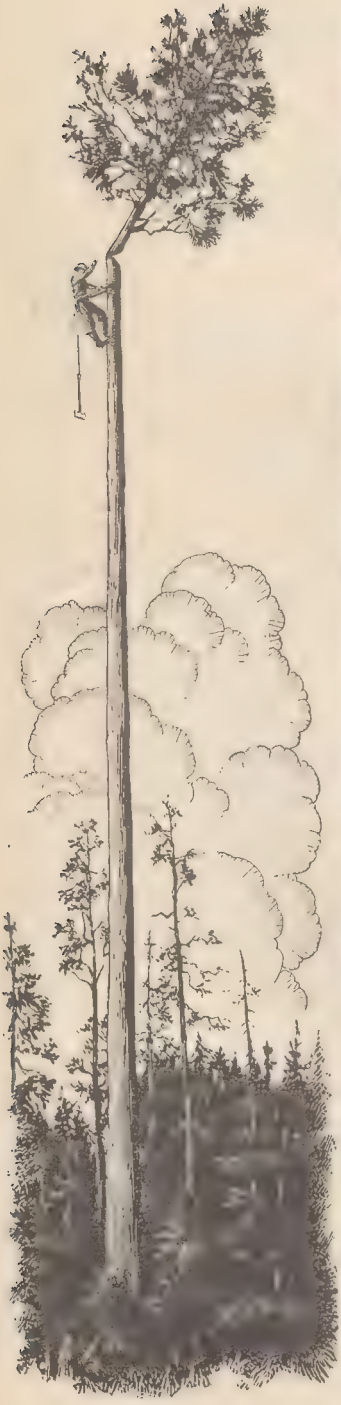


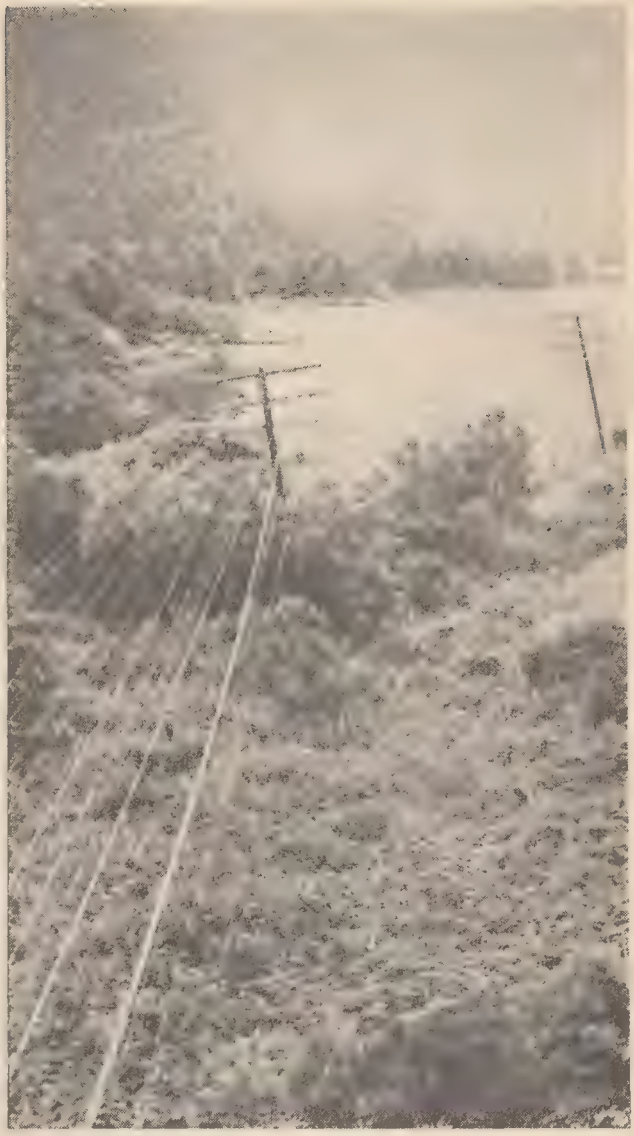
FOOTBRIDGE ELIMINATOR. PASSENGERS ENTERING STATION AT MALTON, ENGLAND, CROSS TO CENTER PLATFORM VIA WOODEN TROLLEY. DEVICE IS STORED UNDER ISLAND SEPARATING DOWN AND UP TRAINS WHEN NOT IN USE (British Railways Magazine)

CONDUCTOR STORK. WHILE BEING RUSHED TO HOSPITAL IN SCOTIA FROM FLOODLOCKED FORT SEWARD, CALIF., MRS. W. R. KELLY GAVE BIRTH TO HEALTHY BOY IN CABOOSE OF NORTHWESTERN PACIFIC SPECIAL (Southern Pacific Bulletin)



OOPS! TRUCK UNLOADING COAL INTO GONDOLA ON RAILWAY SIDING AT CARBONDALE, ILL., WENT SKYWARD WHEN CARGO SHIFTED AGAINST JAMMED TAILGATE (Alfred Comstock, Leonia, N.J.)





RAILROAD through the REDWOODS

JACK R. WAGNER

It's Not Big, As Railroads Go, But It Has Powerful Connections and an Assured Future

THE NORTHWESTERN Pacific Railroad operates entirely within the state of California and more specifically within that northwest portion of the state termed the Redwood Empire. With its rails beginning at Tiburon on the north shore of San Francisco Bay and extending northward almost to the Oregon border, it services vast lumber enterprises, cities and farms in five of the most scenic counties in California.

Although owned outright by the Southern Pacific, the NWP is operated as a separate system. It has only one physical

THE SOURCE. A mixed freight which includes flatcars loaded with finished lumber moves through the vast tree garden which supplies the Northwestern Pacific with most of its traffic

connection with the parent company, other than the interchange made by carfloat at its piers at Tiburon, where much of its freight is transferred to Piers 25, 43 and 45 in San Francisco and to the Santa Fe terminals in Oakland and Richmond. And so partly as a matter of policy and partly because of its geographic location, the line is pretty much on its own.

The short line has a lesser flea of its own, in the form of the Petaluma & Santa Rosa, a 37-mile freight line that serves a rich portion of Sonoma County noted for apples, wine, brandy, eggs and chicks. When the P&SR was acquired by the NWP in 1923 it was an electric line operating as a passenger-freight interurban with steamer and barge connections at Petaluma. Today the little road has been completely dieselized and though the last of the stern wheelers has been removed the water connection to San Francisco is still maintained by barges and tugboats.

Today the road provides freight and passenger service between the San Francisco Bay Area and the Redwood Empire, supplying the only rail connection to Eureka, largest city north of Sacramento.

Famous as the redwood capital of the world, Eureka is also known for its fisheries which include one of the last remaining whaling stations on the Pacific Coast, and by contrast its colorful rhododendron plants which are shipped to nurseries all over the country.

To trace the history and organization of the NWP is as winding a path as its roadbed along the famous Eel River, for the story must include the once popular North Pacific Coast narrow gage division and the high-speed electric trains that provided residential Marin County with rapid transit as well as a scenic ride on sleek NWP ferry boats.

While the commuter service of the NWP is still fresh in the minds of many north bay residents it will require a little research to piece together the patchwork of 41 short lines, logging railroads and miscellaneous ill-fated projects that were finally connected to form a continuous line from Eureka to the Bay Area. Perhaps nowhere in railroad history can we find 330 miles of railroad made up of so many small pikes.

If we begin at the beginning, we find that on April 18, 1862 the California Legislature awarded a franchise to one Charles Minturn, a boat operator, to construct a railroad from Petaluma to Haystack Landing on Petaluma Creek. The Petaluma & Haystack Railroad was the name given the 2½-mile project. At first horse-drawn cars were used, but later a steam locomotive was purchased. This proved to be a poor investment, however, as it blew up and the railroad went out of business.

In 1865 Petaluma saw the beginning of another railroad enterprise when the San Francisco & Humboldt Bay was organized to build from Petaluma to Cloverdale. Although the road's backers were successful in obtaining a $5000 per mile subsidy they completed only about ten miles of grade.

North coast railroading took a turn for the better in 1869 when Peter Donahue appeared on the scene. Donahue, who had sold his interest in the San Francisco & San Jose, promptly organized the San Francisco & North Pacific Railroad, buying the right-of-way and franchise of the defunct San Francisco & Humboldt Bay. The following year the first train ran from Petaluma to Santa Rosa, a distance of 14 miles, and two years later the road had been completed to Cloverdale, giving the Donahue company 52 miles of operating railroad.

In 1872 the Sonoma & Marin Railroad was organized with Petaluma capital, and following the route of the old Petaluma & Haystack was headed south toward San

SCHELLVILLE is only physical connection between the NWP and parent Southern Pacific; also the point at which the latter takes over most southbound freight

INFAMOUS Scotia Bluff. Trestle work keeps track high and dry, but is no match for landslides which sometimes push trestle and track into river

Rafael. Unfortunately the Sonoma & Marin came to grief in the salt marshes and lay dormant until October 1876 when it was acquired by the Donahue interests.

While the railroad activity around Petaluma was going on, the San Rafael & San Quentin Railroad was incorporated (Feb. 25, 1869) and in March of 1870 began operation over the 3½ miles of standard gage track between San Rafael and Point San Quentin, where it connected with the San Francisco ferries.

The following year the North Pacific Coast was incorporated and began building a three-foot gage line through the Ross Valley in Marin County. At San Anselmo Junction one branch continued northward to Point Reyes, while the other headed to the B Street Station at San Rafael where it connected with the San Rafael & San Quentin. When the latter road was leased to the North Pacific Coast in 1875 its width was reduced to permit narrow gage operation.

By 1877 the little rails had reached Duncan's Mills, then headquarters for much of the Russian River lumber activity, and a logging branch was built to serve the Russian River Land & Lumber Company. The North Pacific Coast now had 80 miles of railroad, 9 locomotives, 10 passenger cars and 190 freight cars . . . and considerable business.

In fact the Russian River lumber traffic appeared so good that Peter Donahue stepped in from another direction to give the North Pacific Coast some competition in the form of the Fulton & Guerneville Railroad, a 16-mile branch that connected with his San Francisco & North Pacific.

When Donahue died in 1885 his son, Col. J. M. Donahue, followed in his father's footsteps by organizing the Cloverdale & Ukiah Railroad and also the Marin & Napa. However, the colonel outlived his father by just four years, and when he died the Donahue Lines were sold at public auction.

During 1889 the new owners broadened the narrow gage branches and consolidated all the Donahue roads under a single name. This system operated as the San Francisco & North Pacific until 1898 when it was leased to the California Northwestern and was subsequently acquired by the Southern Pacific.

In 1899 the California Northwestern began building northward from Ukiah in an attempt to tap the vast redwood country that lay ahead. But even as Peter Donahue and the North Pacific Coast competed for Russian River redwood, the Santa Fe began to make a bid for this northern California business. They started the ball rolling by taking over a number of small lines, mostly logging roads, and began doing business as the San Francisco & Northwestern Railroad. The intention was to build the necessary extensions and eventually connect with the main line. Then in a strategic countermove the Southern Pacific acquired the Eureka & Humboldt Bay and the chess game was on.

It soon became obvious that the two lines could not both profitably serve the area, so the Southern Pacific and the Santa Fe sat down and began to put the pieces of their puzzle together. And that's how a group of little railroads became welded together into a single line known as the Northwestern Pacific, and how what looked for a time like a battle of the giants ended in an amicable working agreement.

BUT THERE was still much construction to be done and the newly formed NWP (1907) began the task of physically linking its scattered trackage into a single main line from Eureka to San Francisco Bay.

Of the two proposed routes to Eureka, NWP engineers chose the one originally selected by the SP, north of Willits, through the canyons of Outlet Creek and down the main fork of the Eel River. It's easy to tell about it now, but this work required seven long years and is still considered one of the most costly pieces of

PRE-WAR NWP passenger service provided daylight schedule along redwood-lined Eel River, which was and still is well worth the price of admission. But unfortunately for tourists, current Eureka Express is night owl

railroad engineering in the United States.

Finally on October 23, 1914, NWP president W. S. Palmer and a trainload of dignitaries, including the mayors of San Francisco and Eureka, drove the silver spike near Cain Rock Bridge (1117 feet long) and the line was officially completed.

After the ceremony the notables started for Eureka, but they were delayed four hours at Sonoma Flats by a slide, the forerunner of the NWP's chief source of trouble which even today runs the cost of maintenance-of-way to around $2 million a year. Because of the slide and other damage caused by winter floods and storms that first year, the line was not opened to through traffic until the following spring (1915).

Joint SP-Santa Fe ownership continued until 1929 when the Southern Pacific Railroad purchased the Sante Fe's interest, and became sole owner of the NWP.

Now that we have traced the evolution of the Redwood Empire Route's main line let's flash back for a moment to the Marin County passenger service that was for so long a specialty.

The pioneer North Pacific Coast Railroad, which we discussed earlier, had been renamed the North Shore Railroad and had built an extensive suburban rail network connecting Sausalito with Mill Valley, San Anselmo, San Rafael, Fairfax and Manor. This portion was made standard gage and electrified in 1903 and 1904, using a third rail system. However, the company still ran its narrow gage trains as far north as Cazadero which necessitated laying another rail wherever the slim gage trains used the standard gage roadbed. In fact if we count the electrified third rail there were actually four rails where the two systems converged.

ONE-CROP railroad. Mass haul redwood and fir logs are sure revenue, about 85 percent of the road's total, but NWP officials would breathe easier with more variety in on-line industries

MARINE HOG at Tiburon dock, above, is part of Santa Fe's San Francisco Bay Navy. Northwestern Pacific cars going aboard a Santa Fe carfloat, below, for voyage across San Francisco Bay

CARFLOAT and tug at NWP dock at Tiburon belong to the Santa Fe which once shared Northwestern Pacific ownership with Southern Pacific. For a time giant pikes raced for hegemony in Redwood Empire. Below: World's largest sawmill, at Scotia, is big NWP customer

SMALL CHANGE. NWP's two passenger trains carry an estimated fifteen to twenty passengers daily, with slightly larger loads during bus strikes. Trains also carry mail and express, but still do not pay for themselves

Pioneer passenger service on the interurban line was handled with wooden motor coaches pulling a motley assortment of steam-road coaches as trailers. In 1928 and '29, however, under NWP ownership these Pullman-green cars gave way to large steel units. Painted a bright orange, this equipment brought a new luxury to the commuter service.

In 1930 the narrow gage line between Point Reyes Station and Cazadero was removed and that ended the three foot era of the NWP. Standard gage service continued for a time to Point Reyes.

Before automobiles were in general use, the Northwestern Pacific derived over half its total revenue from passenger traffic; but with the advent of the family car the passenger business curve took a turn for the worse although the commuter service still remained an important part of the NWP until May 28, 1937. On that date the $35 million Golden Gate Bridge was opened to vehicles and the swift ferries and speedy electric trains were doomed. The last boat sailed and the final train rolled on the night of February 28, 1941 and for thousands of Marin County commuters it was the end of an era, an era now referred to by many riders of San Francisco area busses as "the good old days."

However, it was not the end for the rest of the Northwestern Pacific. In fact it was the beginning of an era, one of unprecedented prosperity for the entire Redwood Empire, as whirling saws worked night and day to supply the tremendous demand for redwood, pine and fir. Scores of small mills sprang up along the line to add their output to that of the Hammond Lumber Co., the Pacific Lumber Co., and the other pioneer operators. There are now some 300 mills in the northern part of the area served by the NWP. In addition, seven or eight plywood plants and many other industries using wood or making wood products contributed to the increased activity.

During the depression thirties one short freight train a day serviced the entire area, and before the long decline was over NWP had torn up 100 miles of track, ending service in whole sections of the Empire.

WATER LEVEL GRADE. A single locomotive easily handles this 57-car drag on the serpentine curves of the Eel River

But today's schedule boasts seven to ten freights a day, plus one coach-Pullman passenger train each way. Naturally this extra traffic has brought many changes and improvements. Originally laid with 75-pound rail, the road has installed 110 and 135-pound steel brought over from the SP.

The NWP has also inherited some of the SP's steam engines, with the parent company's name still on the tenders. While some people may be inclined to chuckle at the hand-me-down aspect of this arrangement, it must be pointed out that the Redwood Route is also getting its share of modern SP diesels, which would seem to indicate that it's not a bad idea to have a big brother in the railroad business.

NWP estimates that some 85 percent of its business is lumber. They feel, likewise, that if the lumber industry takes the proper measures to conserve the wood-riches of the area, if they log on a perpetual yield basis, then that 85 percent of the railroad's business will remain secure. NWP knows that it can ship heavier loads over longer distances more economically than trucks. In 1947, during the nationwide shortage of freight cars due to increased consumer buying, some Redwood Empire shippers had to send lumber by truck to Southern California, and, says the NWP, some trucking companies lost money on the deal.

So the railroad men are not too worried. Ninety-five percent of their freight is the lumber that leaves NWP territory for the long haul. Much of it goes to Southern California.

But nonetheless, NWP realizes that theirs is pretty much of a one-industry railroad. There is always the insecurity that goes with this lack of diversity, of flexibility. NWP would like to see new types of heavy industry established in the Redwood Empire, more businesses like the Basalt Rock Co. of Healdsburg, which has become one of the railroad's biggest customers. NWP would like to carry more fruit, and it has established its own common carrier trucking firm, Pacific Motor Transport Co., to help it serve one big job—the Lake County pear crop.

One look at the figures shows the reason for this concern. Of 103,022 carloads handled last year, 66,777, considerably more than half, contained products of the forest.

Leaving San Francisco, today's Eureka-bound travellers board a Greyhound bus and head toward Marin County via the Golden Gate Bridge. At San Rafael the bus arrives at the Northwestern Pacific station and the passengers change to the waiting *Eureka Express*. Train No. 4, and Train No. 3, its southbound counterpart, have long been a tradition with the NWP, providing overnight passenger and express service between San Rafael and Eureka. Although the night trains offer a convenient connection for business people, it is unfortunate that much of the mountain scenery glides by unseen during the night.

But if we could take a composite trip over the Northwestern Pacific, combining freight and passenger schedules and running only during daylight hours, we would see all the many variations of California's beautiful Redwood Empire—coast and valley, forest and plain. So let's imagine we can arrange the NWP schedule to suit our purposes and roam the rails of the Redwood Empire Route.

OUR COMPOSITE trip would probably begin at Tiburon where the shops and roundhouse facilities are located. Our locomotive is steaming and we are ready to begin the trip. Although we are going north by the compass, the dispatcher and crew refer to our direction as "eastward" and the return trip will be "westward", as a train on the NWP going away from San Francisco is said to be going east, and a train coming toward San Francisco is heading west regardless of what the compass says.

Leaving the yards at Tiburon we glide through the green Marin countryside over bridges, through tunnels and across meadows where many new housing developments reflect the tremendous growth of the area.

Near San Rafael we cross the roadbed

ISLAND MOUNTAIN tunnel, almost a mile long. In the winter of 1937-38 a landslide tied up train operations in this area for almost 72 days

of the old San Rafael & San Quentin Railroad and soon come to a smooth stop beside the attractive, single-story Spanish style building that serves as station and general offices.

While our crew is obtaining clearances we have time to walk through the general offices. We'd like to pay a courtesy call on G. L. Morrison, genial vice president and general manager, but the chances of finding him in are slim, as he is likely to be out on the road. Being GM of the Northwestern Pacific is not entirely a desk job, and Morrison's practical knowledge of railroading has been put to good use on many occasions.

Leaving the busy office we find the activity matched in the yards outside. A long string of mail, express and merchandise cars are being loaded and tonight they will roll at the head end of the *Eureka Express*. Two short blasts of the whistle remind us it's time to swing aboard and soon we're chuffing our way out of town on a slight grade. At the city limits we duck into a tunnel, but after that we find ourselves once again in open country.

At Ignacio Junction, near Hamilton Field, we cross the 15-mile branch that extends eastward to Schellville for the road's only physical connection with the Southern Pacific, and the point where most of the road's southbound freight is turned over to the parent company. The branch terminates 4.4 miles beyond Schellville at picturesque and historic Sonoma, where in 1846 the Bear Flag was raised and California was declared an independent republic.

Our next major stop is Petaluma, known as the egg basket of the world because chicken farming is the town's chief industry. A major industry it is, too, for here we will find the largest feed elevator on the Pacific Coast, along with many mills and warehouses serving the requirements of the poultry producers. There is even a pharmacy devoted to the compounding of poultry remedies. Petaluma's freight business may be chicken feed, but it runs to 900 carloads monthly!

We have passed haystack landing and are now traveling over the same right-of-way used by the pioneer Petaluma & Haystack Railroad. Crossing Petaluma Creek drawbridge we ease off and whistle a warning for the yards.

Petaluma is a busy little city and for a time we watch barges being unloaded and the interchange between the Northwestern Pacific and the Petaluma & Santa Rosa, but soon it's time to roll and once again we find ourselves on tangent track in level farmland. This panorama of agricultural wealth continues until at Milepost 53 we reach the outskirts of Santa Rosa, seat of Sonoma County.

Santa Rosa is a city of shade trees and stately old mansions as well as its share of new homes and a modern business district. But soon we're off for Healdsburg where the road crosses the Russian River and begins the long climb to Geyserville, Cloverdale, and finally Ukiah, just 114 miles north of our starting point.

Although we have been climbing steadily since we left Healdsburg we do not actually enter the mountains until we reach Ukiah. North of Ukiah we come to Redwood Valley and here we encounter the toughest grade on the road. Helpers are necessary for all trains, with four locomotives required for a 48-car freight, which incidentally is just about the longest that can be worked on this stretch. The prevailing grade is 3 percent, although a section between Laughlin and Ridge, the summit, is said to be as steep as 5 percent.

After working our way over the divide we then drop down an easier grade to the town of Willits. We are now at the division point, 139 miles north of our jumping off place and roughly half way to Eureka. We lay over here waiting for a local freight to be called which gives us plenty of time to look around. It is an active little town with its railroad yards, roundhouse and other installations (it's the home of the Northwestern Pacific's big hook too).

THE BEGINNING. Northwestern Pacific car yards at Tiburon, road's southern terminus. Angel Island is in the background

COW AND CALF diesel passes herd of the real article near Loleta. Like most NWP motive power it is a hand-me-down from parent SP

Everywhere are signs of the logging activity so characteristic of the local economy. Even the air has a tang of fresh cut lumber.

Willits is also the junction point for the Union Lumber Company's California Western Railroad running westward across the mountains to Fort Bragg. It's yellow motorcar leaves Willits station each morning and passes through some of the wildest and most brilliantly beautiful country in the west—a thrilling trip for nature lover, fisherman and railfan alike.

For the rugged northern division of the Northwestern Pacific our best connection is the local freight running extra between Willits and South Fork. It's skipper is energetic Lew Marsh and the man at the business end of Number 2762, a veteran 2-8-0, is Homer McKenzie. Aboard the caboose this trip is Special Agent H. O. Peters who patrols the road, alert for any mysterious goings on.

Leaving Willits our train wastes little time getting into the mountains again as we enter the canyon of Outlet Creek. The steep slopes are thickly wooded and the bright green foliage grows to the very edge of the roadbed. We are following a water level grade of only .7 percent and our single licomotive handles the 57-car train with ease.

Soon we lose sight of Highway 101 and bear off into the wilderness east of the road. This departure from the beaten path opens new country to our view, a country penetrated by only a few dirt roads and seldom visited by the tourist. Because of its isolation it is a region which depends heavily on the railroad, a fact which is graphically demonstrated by the two open-door boxcars of lcl freight at the headend and the frequent stops while we drop off a sack of flour or a box of groceries, and even deliver ice packed in sawdust and burlap.

We are now running along the Eel River and although there is little grade the roadbed is as crooked as an eel, with some curves as sharp as 15 degrees and many trestles and bridges. This section has certainly contributed more than its share of the total of 315 spans to be found on the NWP. As for tunnels, within a comparatively few miles we find the bulk of the road's 41 bores. We recall that it was the Eel River Canyon that for seven years resisted the coming of the rails and even today is a heavy item of expense on the company's books. The big slide at Milepost 190½, for instance, has been a geological curiosity for years, attracting engineers from all over the country. Six hundred feet wide at the track, it extends 6000 feet up the mountain and is almost in continuous motion.

Another expensive item of maintenance is the famous Scotia Bluff where the road is carried high above the river at the base of a huge cliff. Although this system keeps the tracks high and dry during periods of high water, it doesn't stop the crumbling cliff from frequently sliding down, pushing the trestle and the railroad into the river. Because of its vulnerability the bluff is patrolled around the clock in three eight-hour shifts.

It is interesting to note that the land across the river from the bluff is level and would have accommodated the roadbed with ease. Although engineeringly simple, the builders ran into difficulty with the owner of the property who is reputed to have wanted $100,000 for a right-of-way across his land. At first the railroad declined, but after weighing the cost of building across the river decided it would be cheaper in the end to pay this exorbitant price. When they returned with their acceptance they were informed that the price was now $150,000. That did it! The railroad immediately began construction along the Scotia bluff. When the landowner discovered that his greed had lost him a fortune, he committed suicide.

After leaving Scotia the railroad continues in a northwesterly direction toward the Pacific. Leaving the mountains and skirting the fog moistened fields we reach the southern tip of Humboldt Bay. From here it's a short sea level run to Eureka, the end of the line and the end of our trip on the Redwood Empire Route.

GN-BUILT. Railway's boxcar program was presented in St. Cloud Shops. At Station 5 in Repair Shop, roof units were dropped on skeleton cars, and riveting done at next stop

Twenty Cars a Day

DON E. HALL

Great Northern Eases Boxcar Shortage By Building Program at Minnesota Shops, Turning Out 950 At Cost of $6 Million

THE SCENE was the St. Cloud Shops of the Great Northern where 20 new freight cars were rolling off assembly lines daily. And, as an oldtimer had surmised, there was a story in those boxcars. This one started two years ago. Like most other railroads, Great Northern had been building cars as rapidly as possible since the end of World War II—subject to a materials shortage situation that interfered sorely. The country's railroads were making old cars do just as long as possible.

But the 1948 blockade of Berlin, the President's announcement in 1949 that Russia had the atom bomb and, finally, the outbreak of the Korean war in 1950 were shocking proofs of the need to put

America's transportation system in readiness again without delay. Nearly every Class I railroad in the country responded to the challenge. Altogether, they pledged the building of an additional 125,000 cars within a 2-year period. The Great Northern, however, went a step further than most of them in planning a volume output of cars.

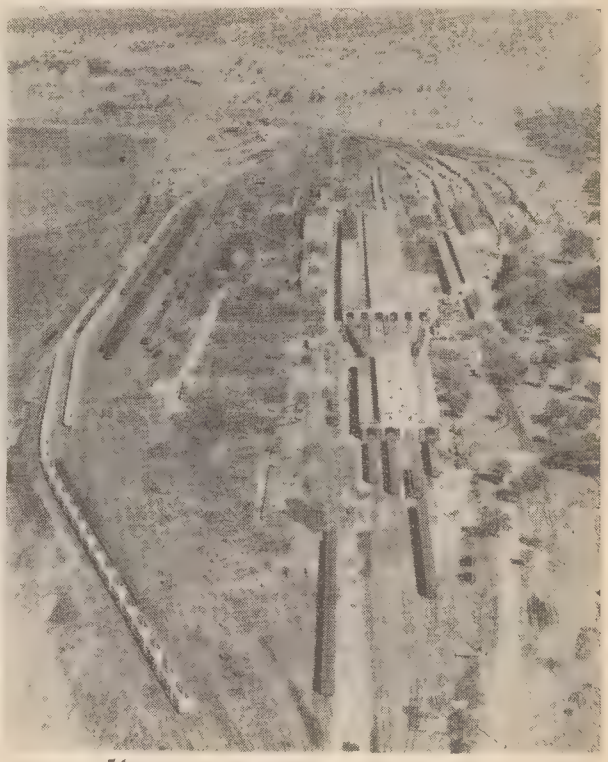
The 1952 building program of 950 freight cars at St. Cloud marked the completion of the third thousand. This particular project started in May 1951, when the railway authorized their construction. About $6,000,000 was set aside for this project, which also included the building of 50 cars equipped for handling mail and express in passenger train service. The job was earmarked "AFE 81204" which stabilized an "Authorization for Expenditures" account against which all charges had to be placed. Work on AFE 81204 started immediately. The project was placed in the hands of the Master Car Builder, and before long the Mechanical Engineer's office had started the long and tedious task of drawing up hundreds of blueprints. Representatives of nearly every railway device company in the country converged on the road's general offices in St. Paul. Some were selling more or less standard products such as side doors and running boards. Others were boosting newer and, as yet, untested devices.

Finally, after several months of concentrated effort the plans for the new cars began to take shape. As the St. Cloud Shops in Minnesota serve mainly as an assembly point, most of the major items had to be purchased and shipped there direct. The Mount Vernon car making plant of Pressed Steel in Illinois was awarded the underframe contract; Youngstown Steel received the steel sides job; Standard Railway Equipment was asked to furnish the roofs and steel ends. Contracts for slack adjusters, power hand brakes, running boards, and brake chains were divided up between two and, in some instances, among three manufacturers.

When all of the contracts had been let, copies of the prints were sent to the St. Cloud Shops. Here they were double-checked by supervisors and the shops' Blueprint Department.

"Up until that time we had little to do with any new car project," Shop Superintendent George Snyder commented, "Although we do assist the Mechanical Engineer's office whenever needed in the planning stage, our real work starts when we receive copies of the requisitions."

ST. CLOUD SHOPS. Air view gives overall picture of layout. Note string of skeleton cars at left, and cars in center foreground just out of Paint Shop. Assembly line ran through Repair Shop in right center



After going over every print minutely the shops' Blueprint Department started checking the requisitions. If an error was found it was called to the Mechanical Engineer's attention and investigated immediately.

The shops had their share of ordering to do, too. This included all the fastenings and smaller miscellaneous items. For example, every rivet, bolt, nut, screw and nail for the proposed new cars was counted. Welding rods, paint, lumber and anything else that the Mechanical Engineer's office assigned was also written up and ordered directly from the St. Cloud plant.

Here another department of the railroad was brought into action. The local branch of the Stores Department, also situated at the shops, took care of placing all St. Cloud's orders, unloaded the material when it arrived and delivered it down to the assembly line.

At first the material just trickled in. Steel, urgently needed by the shops' Blacksmith Department for prefabrication of grab irons, sill steps and other brackets, was noticeably lacking. Then the steel strike came, and the trickle was cut off completely. Manufacturers, when queried about the situation, would promise nothing. For a while it looked as though the entire new car project was doomed. But the Great Northern was determined to build these boxcars, and took steps to line up supplementary sources of material.

Every shop and store along the railway system was asked to send along whatever miscellaneous steel it could spare. Superior, Great Falls, Seattle, Spokane, Minneapolis, St. Paul and other points started loading cars and earmarking them for St. Cloud. Three-quarter-inch round iron, angle-iron, and sheet-iron soon began arriving in quantities substantial enough to warrant the starting of prefabrication of various items.

In the meantime the railway's Purchasing Agent had received tentative promises from the manufacturers of the larger items (sides, ends and underframe) that delivery would be fairly regular. So, while the Blacksmith Department was doing its prefabrication job, officials waited until enough major material was on the grounds before setting the assembly line into motion.

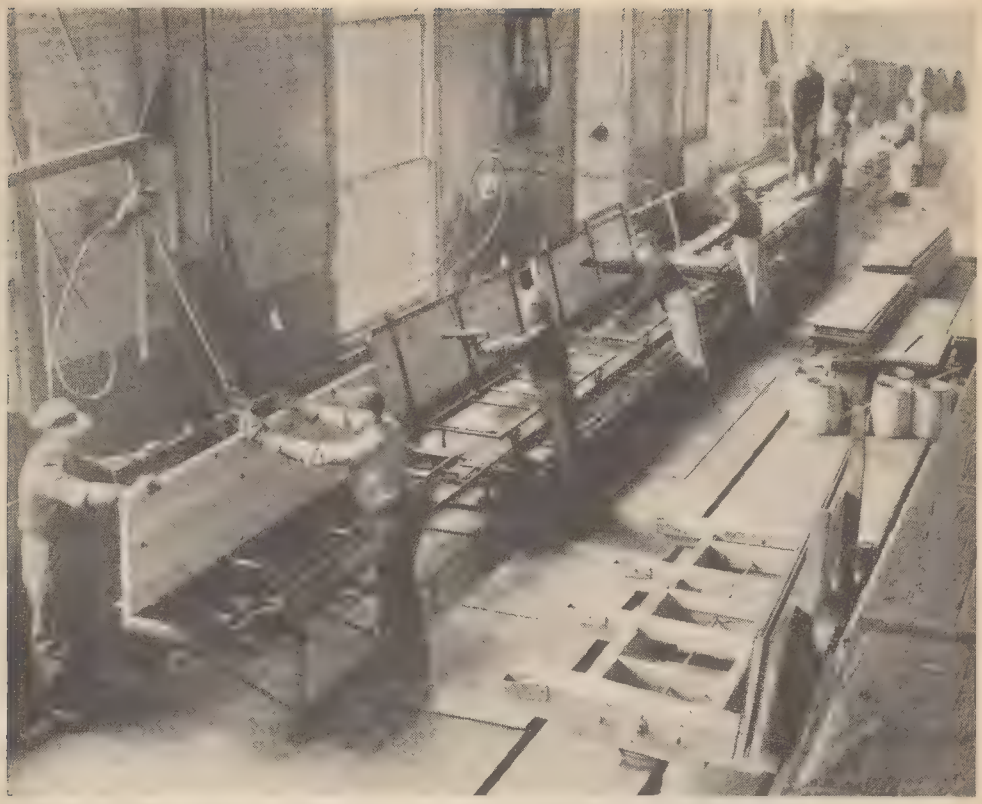
A couple of months later Superintendent Snyder received orders to start the line. "At first we expected to be able to complete only 500 cars, but at least it was a start," he said.

Leo Zierden, the shops' General Foreman, formulated assembly plans. A truck jig was set up on Track 1 of the Repair Shop, which also served as the assembly shop. Truck frames were carried into position on a special traveler device which made it possible for a welder to turn them easily to arc-weld their friction plates. Another device pressed the friction castings and ride control springs into the truck bolsters. And another jig was utilized to bring axles and wheels and brake beams into location. With the help of these contrivances, mostly improvised by Zierden, five men were soon building forty A-3 ride control trucks every eight hours.

These trucks were sent out into the shop yards, where the first stage of assembly began. Here the underframes were set on them; the sides were hoisted into place and the one-piece dreadnaught ends were pinned on. After this was completed, a diesel pulled the skeletons over to the assembly lines.

Two separate assembly lines, located on Tracks 2 and 3 of the Repair Shop, were utilized in the operation. Each of these lines had 16 major working stations. They operated independently of one another and each had a daily quota of ten new cars to prepare for the Paint Shop.

BEFORE we run down the assembly line proper let's take a look at the part that other departments at the St. Cloud Shops played in keeping the line amply stocked with material. Four auxiliary departments were involved. Their work schedule ran between two weeks and two months ahead of the assembly line in the



PREFAB FOLLOWUP. Floors thrown into place at Station 8 were formed beforehand and moved to assembly line where metal protectors and decking were put on panels for easier application to cars

Repair Shop. Of these, the Blacksmith Department handled the bulk of the work. Its duty was to prefabricate bottom corner bands, rivet ladders, make various running board brackets, cut bar iron, fashion bell-crank fulcrums, bend chain clevises, punch brake step brackets, and shape hand brake supports.

In the Machine Department the axles were turned down to size. The steel wheels were bored to between eight- and ten-thousandths of an inch undersize. These wheels were then mounted under 75 to 100 tons of pressure, after which they were sent to the truck jig.

The Wood Mill handled all lumber requirements for the cars. This included planing, counter-boring, ripping and cut-off work. A quick rundown on some of its products would include fir lining, grain strips, end lining nailers, perishable strips, side and door posts, cripple blocks, and the fabrication of the end-lining panels.

All AB valve bold head-locks, explosive and tack board binding for the doors and ends and top-end lining retainers were cut and punched in the Sheet Metal Department. This shop also cut ⅛-inch shims used under the decking between the body bolster and end sill to correct a variance which occurred with the use of metal floor protectors.

After leaving these four prefab shops I went back to the assembly line where I found Zierden checking the cars. "The entire line," he explained, sweeping his arm in a lengthwise motion, "is only 900 feet long. At first, this resulted in the concentration of too much work at some particular stations. By adding a little here and taking away a little there, we managed to get things working in pretty fair fashion."

A walk down the track convinced me

that everything was operating at top-level efficiency. Every man knew what to do and when to do it, resulting in a series of systematic efforts all the way down the line.

Let's start at Station 1 and look over the set-up. When the skeleton car moved into the Repair Shop it had already been aligned and its sides clamped securely to the underframe. Work at the first station consisted of welding the sides, ends and underframe together. The top and bottom corner caps, hand brake units, ladders, sill steps, side and end grabirons, brake adjusters and AB equipment like the reservoirs, valves and cylinders were also applied here.

At Station 2 the welding was completed and the holes in the sides and ends were reamed preparatory to riveting at Station 3, where, rivet crews secured the end to the end sill and to the side, drove rivets through the brake-step brackets, and covered all safety devices. Welding studs for the end-lining nailers and side and door posts, were also applied here. Although a certain amount of riveting was also done at Station 4, it was best known as the door station. Here door rails, which had already been fabricated at another jig, were pinned to the sectional side sill, and the door proper was raised into position.

Still another jig, located at Station 5, assembled and riveted the seam caps, running board saddles and roof sheets together. This complete roof was dropped on the cars, where all necessary reaming also took place. Two more rivet crews took over on Station 6, fastening the roof, end running board saddles and brackets, and top door stops to the car.

Air brake piping began at the next stop, Station 7. This included train line, angle cocks, branch pipe tees and retainer pipes. One man threw in all body brake levers, pinning them to the center connection and top brake rods. Air brake work, generally speaking, was completed at Station 8 with installation of the branch pipe and the cylinder and reservoir pipes. At this spot, too, the floor was thrown into place. Let's interrupt our inspection of the assembly line and look at how the floor panels are assembled.

Prefabrication took place on a jig located at Station 1. This apparatus, built in the St. Cloud Shops, never failed to interest visiting railroad officials. Patterned along an assembly line idea, it produces four different types of floor panels, each of which has its own location in a car. The first man at this floor panel jig threw five

PREPARATION. Underframes were piled in orderly rows upon arrival, then placed on ride control trucks to be pushed down track to side-mounting station

SHAKE-UP. Stockpiles of all-steel sides plus an underframe after pair of sides had been applied gave indication of how individual items eventually fitted into complete cars

pieces of decking on a carriage, compressing the tongues and grooves. The carriage then moved down a track at hip-height level to a stop where a ⅛-inch thick by 25-inch wide metal floor protector plate was applied and bolted on. After the completed panel was removed from the jig, the carriage dropped to a lower level track and was automatically returned to its original position.

Back on the assembly line again we visited Station 9 where the side sill filler blocks were being applied and the floor plate nuts along the side sill were tightened. This procedure made it possible to apply line post fillers and end lining fillers at Station 10.

About this time the track whistle blew, warning everyone that the "track was being pulled up." We stepped back and watched a workman hook a clamp on a continuous cable lying on the floor. When the cable started moving, our party followed the car down to Station 11.

Zierden interrupted, "At this spot we install fiberglass on the ends of the cars. This is not being done for warmth. It is there solely to prevent infestation by bugs like the cotton boll weevil." While this work was undertaken on the car's end, another crew was applying the grain strips, perishable strips and door post shields.

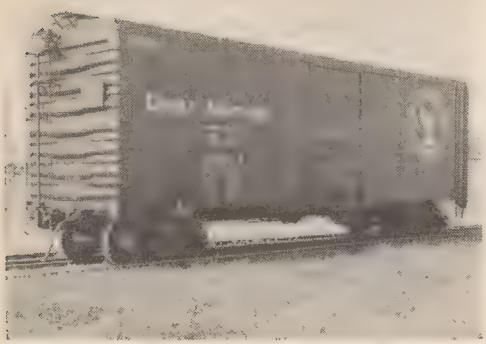
A pit at Station 13 aided workmen in moving around under the car while tightening the rest of the floor bolts to the underframe. The fir lining was also thrown into the car here to be ready for Station 13, where lining crews set up and nailed the 13 x 16 x 3¼-inch boards. On an overhead scaffold other men bolted the lateral running boards on, set up the brake step, and tightened the tack and explosive board nuts.

End lining panels, already fabricated in the wood mill, were set into place and nailed at Station 14. When this is done the car looks as though it is pretty well completed. Still more work, however, remains to be done at Station 15. Here the car was jacked for the first time and set on trestles. The trucks were pushed out, waste retainers installed, and side bearings riveted. This same crew also riveted the door rail, fastened only temporarily at Station 4, to the side sill. Inside the car another man put on an end lining cap which had been fabricated in the sheet metal shop.

Station 16, officially known as the Inspection Station, marked the end of the line in the Repair Shop. Besides being thoroughly inspected here, the car was

given an air test and miscellaneous defects were remedied.

WHEN the completed car left the assembly line, it was propelled by another cable into the Paint Shop, some 300 feet away. After being sprayed twice (the sides, ends and underframe were already primed) its next stop was a drier. This oven, equipped with 720 heat bulbs of 250 watt capacity, set the paint in 15 minutes. Application of Scotch-lite delineators and numbers and various other stenciling, including the GN's goat, took place at further stations along the line.



FINISHED PRODUCT. On paper, project was called AFE 81204. Legend on upper left side of boxcar bears Authorization For Expenditures note to effect: "Great Northern Railway Second Equipment Trust of 1951. The First National Bank of the City of New York, Trustee, Owner, Lessor"

The car then passed through a Flint-kote Station. At this spot, the last stop before it is ready for the road, a total of 50 gallons of Flint-kote was sprayed on the ceiling. In essence, this is merely an under-coating of the galvanized roofsheets which discourge moisture (due to extreme temperature changes) from forming and dripping on valuable lading.

And what happens after a car has been completed? Well, let's let Zierden explain.

"Naturally, the car has to be weighed. This is done out in the yards just prior to shipping. The light weight of these boxcars runs around 41,000 pounds and the load capacity to 128,000 pounds.

"We then look the car over again before releasing it to the train crews who haul it to the division point at Willmar. From there it is either assigned to company freight duty or else goes through interchange and ends up on other roads in all parts of the country!"

Speaking of other roads, a number of these aided considerably in this 950 new-car program by shooting needed material over their lines as quickly as possible. The shortage of one hundred truck frames presented a typical example. The shops, which made a daily check of all missing material, advised the Stores Department that this shortage was critical. The Stores, in turn, informed the railway's Purchasing Agent who does all the outside expediting. After contacting the manufacturer several times the Purchasing Agent was notified that the needed frames would be shipped from Depew, N. Y., on a certain date and routed over several different roads. An alert was sent out to the Superintendents of Transportation of all roads over which the hot car was to run. All railroads co-operated so efficiently that the frames reached their destination within five days, just in time to keep the shop's truck jig from breaking down.

This, of course, was only one incident. "Every day when we looked at our books we found a few more hot chestnuts to pull out of the fire," said Superintendent Snyder. "Some of the items were traced as many as a score of times. But, thanks to the cooperation of everyone involved, we were never forced to deviate from our 20-car daily output."

Twenty cars a day! Twenty plain, ordinary, unglamorized, working freight cars, built at an average cost of $6305 each, took their place daily on the rails, helping to strengthen commerce and build a transportation bulwark of defense.

Each month the Information Booth prints answers to rail questions of general interest, submitted by our readers. We do not reply by mail.

General Electric

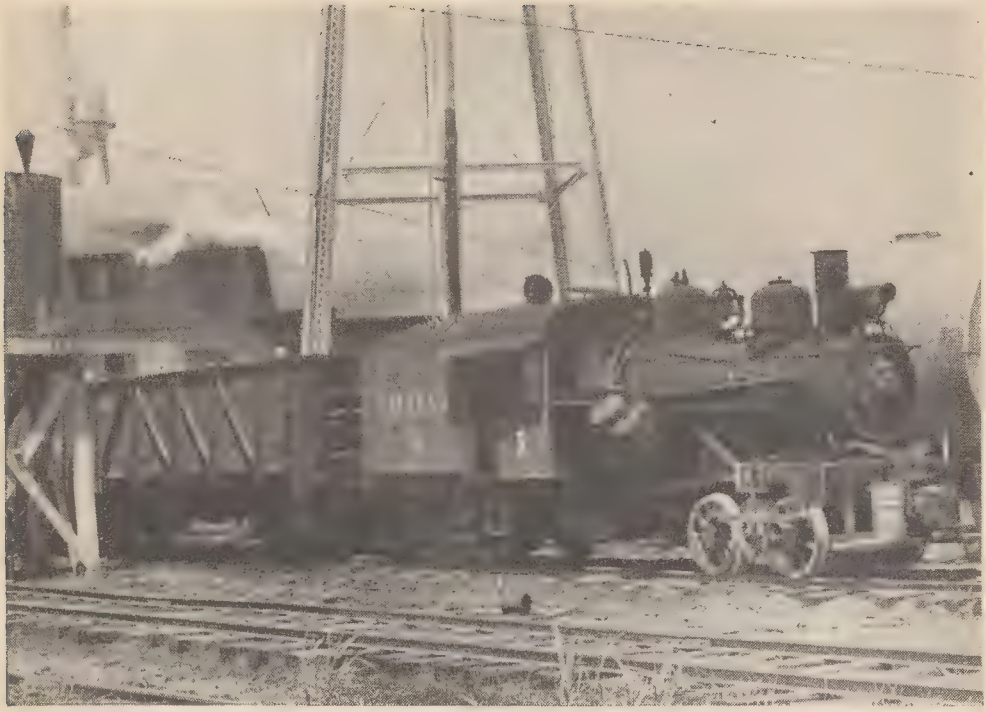
HOT FREIGHT. Longest tubular heaters ever built by GE, 120-feet long and U-shaped, are loaded in special 65-foot gondola for shipment to Newport, Wash., prior to installation in Albeni Falls Dam. Heaters enable dam gates to be lowered and raised during sub-freezing weather

Information Booth

Conducted by ALFRED COMSTOCK

Q *I have heard that one of the Union Pacific's gas-turbine electric locomotives has been converted to burn propane gas fuel. Is this true?*

A Yes. Originally designed to burn low-grade Bunker C fuel oil, the new type locomotive was converted on an experimental basis. Union Pacific officials said the work was undertaken to find the most economical fuel for the locomotives. Six of the gas-turbine electrics are now in service on the UP between Green River, Wyoming and Ogden, Utah. The railroad recently announced the purchase of 19 additional gas turbines from GE.



Gita Packer, Fort Worth, Tex.

WELCOME, TO A DEGREE. Chicago Mill & Lumber Company at Tallulah, La., has old steam job and new diesel, but hardly a man on 60-acre grounds would side with diesel if it meant giving up little 90-ton steamer they've seen chug into woods winter after winter to haul out loads of logs

Q *Please present some information on the Rhodesian Railroad project in South Africa.*

A To meet the needs of an economy that has grown rapidly since World War II, the International Bank for Reconstruction & Development made a loan of $14,000,000 on March 11th to Northern Rhodesia. The fund will be applied to a $79,000,000, three-year project to expand existing railways in Northern and Southern Rhodesia, including a new rail connection to the sea to relieve the overburdened port of Beira in Mozambique. The new line, 200 miles long, will reach from Bannockburn in Southern Rhodesia to the Mozambique border, where it will connect with a line now under construction by the Portugese Government to the port of Lourenco Marques.

The part of the program to be financed by the loan will be completed in 1955, with material bought largely in the United Kingdom. The dollars involved will help to offset the drain on the foreign exchange caused by large-scale provision of capital for development of overseas territories. A loan of $14,000,000 made by the United States Economic Cooperation Adminstration in 1951 is aiding in the long-term program, with the balance raised by the two Rhodesias either locally or in the United Kingdom.

Included in the project will be the purchase of steam and diesel electric locomotives, freight cars and passenger coaches; improvement of roadbeds by reduction of grades and curves; modernization and enlargement of repair shops; installation of new signalling equipment, and improvement of water supplies.

* * *

Q *Can you explain how General Electric's new locomotive wheel-slip device functions?*

A Designed to detect and correct wheel slip on electric drive locomotives and built to work at all speeds, it maintains a balanced voltage among the several axles of the locomotive. When this balance is upset by one or more axles spinning faster than the rest, the wheel-slip checker goes to work on the exciter field to reduce the power output of the main generator to all axles. After the slipping has stopped, power is gradually reapplied automatically, and the locomotive will regain maximum tractive effort in a matter of seconds. By quickly checking wheel slip, the device makes it possible to operate a locomotive nearer maximum adhesion without danger of damage to a traction motor from wheel spin, loss of tractive effort or stalling of the train. The new equipment will also take corrective action if a locked axle results from bearing failure, and sticking brakes or other mechanical malfunction which can cause a locomotive derailment and possible train wreck.

The mechanism consists of an axle-driven device mounted on the journal box of each motored axle and a central control panel located conveniently inside the engine cab. Structurally simpler than previous models, the checker is easier and less costly to maintain and not so apt to get out of adjustment, and can be applied to all General Electric and Alco locomotives, as well as to other makes. R. M. Smith is the engineer mainly responsible for its design and extensive testing during the last two years.

* * *

Q *What is the meaning of a white stripe on a boxcar door?*

A It signifies that the car is equipped for loading automobiles.

* * *

Q *In discussing the Pennsy's freight service improvement program on Pages 58 and 59 of the March 1953 issue, Information Booth mentioned a new freight car repair plant at Hollidaysburg, Pa. Can you give me any particulars?*

J. B. Guss, Denver

HUGGER. Doubleheader of Denver & Rio Grande Western fits contour of far land while making turn on Big Ten Curve near Arena, Colo., with tail end of freight drag slowly coming into view beyond rise

A Work is well under way on the new freight car repair shop, the country's largest, at Hollidaysburg, 8 miles south of Altoona. The structure will be 2460 feet long, 54 feet high, and vary in width from 270 to 180 feet. Named for the ninth president of the Pennsylvania Railroad, who was born in Hollidaysburg, the Samuel Rea plant will turn out 50 repaired cars a day on three assembly lines when it is finished in 1954. It will cost $12,800,000. Cars entering the shop from main line service in the morning will be ready for road use the same day. New paint will be dried quickly under infra-red lamps.

* * *

Q *A friend tells me that Westinghouse has sold its holdings in Baldwin. What's the story on this?*

A According to a news release dated March 24, 1953, Westinghouse Electric Corporation was selling its 515,000 shares of Baldwin Securities Corporation to an investment group headed by Ira Guilden and Philip A. Roth of New York. The Wall Street investment house of Kuhn, Loeb & Company acted as agent in the sale. Baldwin's assets constitute two-thirds of the ownership of Midvale and a one-fourth ownership of General Steel Casting Corporation, with Westinghouse's shares representing about a 22 percent ownership of Baldwin.

Westinghouse acquired 500,000 shares in 1948 of what then was Baldwin Locomotive Works. Baldwin merged later with Lima-Hamilton Corporation, but previously transferred its principal ownership of Midvale and General Steel to a subsidiary, Baldwin Securities Corporation.

* * *

Q *Please publish a description of the new auto-loader.*

A A new auto-loader for railroad use which permits six automobiles to be carried on a car instead of four, has been developed by the Evans Products Company, Plymouth, Michigan, manufacturer of railroad loading equipment. It can carry three autos on the floor and three on a second deck. It does not require a special flat car. The loader can be built on a standard 53½-foot flatcar frame. Wide loading entrances make auto loading easy and eliminate the need for using dollies. In addition, the new car permits end loading and unloading of autos.

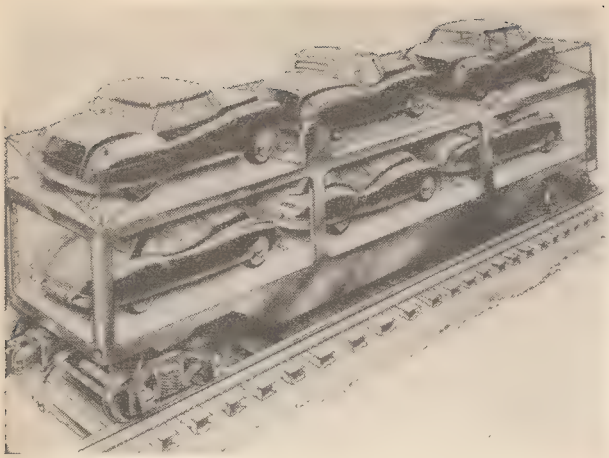
An elevating ramp is lowered and cars to be carried on the second deck are easily raised into position—the third auto loaded uses the raised ramp as its floor. Then three cars are driven into the lower deck and all are secured against shifting while in transit. Except for framework supporting the second deck, and the elevating mechanism, the new auto-loader is an open car. When not in use as an auto carrier, it can be employed to carry many types of dead freight normally shipped on flatcars.

The loader grew out of the conventional Evans auto-loader, which is installed in more than 31,000 boxcars owned by the nation's rail carriers. The company's 4-car auto-loader, which made its appearance in 1932, is the outgrowth of auto-carrying and securing devices around which the company was founded more than 30 years ago. Two large railroads, one an eastern carrier and the other serving the west, will receive the initial installations of the 6-car auto-loader.

* * *

Q *Please print a biographical sketch of Eli H. Janney, inventor of the automatic coupler.*

A Born in Virginia in 1831, Janney received his early education in the public schools of Loudon County there, and then attended Oneida Conference Seminary in New York State. Returning to Virginia in 1854, he engaged in farming with his father. Eventually he acquired a farm of his own. In the Civil War he served as



Evans Products Co.

SIX-CAR AUTO LOADER. It's an outgrowth of Michigan firm's four-car handler introduced in '32. Company developed new one with standard flatcar as basis, eliminating need for dollies and permitting easy end loading. Top-tier cars get there first via center elevating ramp

field quartermaster on the staff of General Lee and later on the staff of General Longstreet, advancing to the rank of major. After the end of hostilities Major Janney moved to Alexandria, Virginia, and worked as a clerk in a dry goods store. There in 1865 he became interested in a problem then engaging the attention of hundreds of mehanical minds, the development of a car coupler better and safer than the link-and-pin coupler then in general use.

Janney was neither an engineer nor a mechanic. The automatic coupler was the only device he ever invented. Once he hit upon the idea, however, his interest never wavered. Using a small pocket knife to whittle out his models, Janney designed a coupler for which he secured a patent on April 21, 1868. His original patent had insufficient merit to meet the approval of the Master Car Builders' Association. In 1873, he obtained a second patent for what proved to be the basic principle of the car coupler now in general use, though it was still far from satisfactory. Realizing that further improvements were necessary, Janney obtained additional patents in 1874, 1879, and 1882, for couplers or parts of couplers, each an improvement over the previous one. Finally, in 1887—twenty years after he started to work on the problem — the Master Car Builders' Association (which later became the Mechanical Division of the Association of American Railroads) reduced the number of approved couplers to three, including Janney's. A year later the MCBA adopted the Janney coupler as standard.

Meanwhile, with the financial aid of friends, Janney had organized the Janney Car Coupler Company in Alexandria and had manufactured a few couplers for test purposes. However, the company did not attempt to manufacture couplers on a large scale but entered into contracts with manufacturers, particularly McConway, Parley & Company of Pittsburgh, to provduce the couplers on a royalty basis. Eventuallly, Janney withdrew from active participation in the work and resumed farming activities in the vicinity of Alexandria, where he lived until his death in 1912.

* * *

Q *The Seaboard Railroad article in the April issue stated that the 79-mile segment on the Hamlet-Wilmington branch in North Carolina is the longest stretch of tangent track in the United States. Where is the longest stretch west of the Mississippi?*

A It's slightly less than 72 miles in length, on the Rock Island Lines between Guymon, Oklahoma, and Dalhart, Texas.

* * *

Q *When was the Order of Railroad Telegraphers formed?*

A The Order of Railroad Telegraphers was established at Cedar Rapids, Iowa, in 1886.

Q *Some months ago I acquired a copper token about the size of a quarter, bearing the initials* MS&NI RR *on one side around the edge, and in the center* E&N DIV. *On the other side it reads in the center ½ cord and under this is stamped the number 27. Was this used in some way with wood-burning locomotives?*

A Tokens such as you describe were issued to engineers of woodburners to pay for cordwood fuel. They were used in cases where company-owned stockpiles of wood were not available. Engineers would buy fuel with tokens, which the railroad company would redeem later. Tokens were issued instead of cash, because the carrier may have been short of currency or because it did not wish to test the engineers' honesty. Some of the cordwood fuel tokens were made of wood.

MS&NI stands for Michigan Southern & Northern Indiana, later known as the Lake Shore & Michigan Central, which merged with the New York Central in 1914.

Q *Which of the Erie Railroad's K-1 Class Pacifics were built by the Rogers Locomotive Works in Paterson?*

A Locomotives 2513-2528, built in 1905, and 2529-2553, built in 1906. Nos. 2529 and 2553 are still in regular service on the Northern Railroad of New Jersey branch line, between Nyack and Jersey City.

* * *

Q *How steep are the grades on the Boston & Maine south of Conway and Wolfeboro in New Hampshire?*

A The grade is 3.2 percent for northbound trains south of Conway, on the B&M's Conway Branch and 3.3 percent on the Wolfeboro Branch southbound between Wolfeboro and Fernald, N. H. Both of these grades are on the *Minute Man* line's Portland or "Banner" Division.

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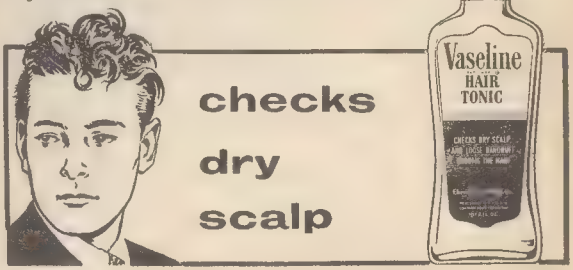

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MANCHESTER

O. R. CUMMINGS and S. D. MAGUIRE

In the Thirties, New Hampshire's Elm City Bustled With the Activity of Ancient But Dependable Trolleys on Frequent Schedules

WHILE most really old-fashioned trolley lines had long since folded in the 1930s, the trolley system in the Elm City of Manchester in New Hampshire was still operating a number of routes with cars that had outlived their normal life expectancy many years before. It was like a trip in the past to travel to Manchester then and see the old wooden cars with high-wheeled trucks rattling noisily up and down the main thoroughfares, with not a single bus present to disturb the fanstastic scene.

There had been several interurban lines radiating in different directions out of Manchester, but those had all disappeared in the '20's. Yet, the local Manchester system continued to run, just as it had for nearly three decades past. The Manchester Street Railway was satisfied with the service given by the trolleys, and obtained the maximum use of its railway equipment, the old cars shuttling back and forth between their terminals with the usual dependability.

Manchester did have seven *modern* cars. These were steel, arched-roof jobs obtained in 1930 from the Saginaw Bay City Railway. While most Manchester electrics varied in length from 20 to 30 feet, these new ones were 42 feet long. And of course, they contrasted well against the older ones. Until this purchase, the newest equipment had been the six 26-footers bought in 1913 from the Laconia Car Company, but by 20 years later they were rather outdated. All the old equipment remained in service for several years into the '30's. Around 1935 the open cars, numbered in uneven series, were given up; and the closed cars, which carried even numbers, gave service entirely. Single-trucked cars rattled along the streets until they were retired in 1937. Still, no new equipment was purchased, and the little closed trolleys ran to the outlying terminals from the center of the city on frequent schedules that caused the main stem, Elm Street, to be jammed regularly with trolleys one behind the other, going back and forth to their destinations.

This was a far cry from the day when the narrow-gage horsecar line of the Manchester Horse Railroad Company had run its first vehicle, No. 1, down Elm Street. The horsecar company had been chartered in 1864 but delays of many kinds had hampered the commencement of operation until 1877. The original route was only three miles long, running the length of Elm, but 15 years later the many extensions of the original horsecar route had brought the total trackage of the three-foot-gage line to 12 miles. By that time, too, the original company had become the

STREET RAILWAY

TRACTION STREET CARBARN. Seven cars at one of two carhouses on appropriately-named thoroughfare represented variety. Open trolley No. 123 at right was built by Osgood-Bradley of Worcester, closed cars 128, 144 and 66 toward center by Laconia, Brill and Manchester itself

Manchester Street Railway, owned primarily by Manchester's Charles Williams. His outfit had 39 horsecars and 189 horses to haul them.

ELECTRIFICATION of the horsecar route took place in 1895, June 8th to be exact, when the first electric car's run was chronicled in the *Manchester Union* by a reporter who wrote: "All the way up Elm Street the gongs and bells were kept jangling. At every crossing there were knots of people who had waited patiently to see the first trip. They waved their hats and cheered as the car went swiftly on. The presence of gravel on the tracks was the cause of frequent flashes from beneath the car, illuminating the store fronts and buildings along the way. At the corner of Kidder Street, a stop was made for oiling and a hasty check of the trolley's mechanical condition; then the journey was resumed."

Two months later a much longer line was opened, from Manchester to Massabesic Lake, on August 4th. This was a busy extension, one which lasted right to the end of service. On opening day the *Manchester Union* dutifully reported: "The car slowly climbed the big hill at the start, as if to get footing, but by the time it reached the junction of Hanover Road, it was bowling merrily along and reached the lake with but one stop in 18 minutes. This sounds commonplace enough, but really marks an important fact. It means that Manchester is now joined to her beautiful pet sheet of water by a link that practically makes the two one.

"It seemed as though everyone in Manchester wanted to ride to the lake. Travelling at ten minute intervals, the cars were burdened with an average of 100 passengers, although there were seats for only 45. Crowds were so dense that 20 fellows climbed up on the roof of Conductor McKinney's car. Mack climbed right up after them and got their tickets."

This electrification of the Manchester Street Railway brought along standard gage, and on April 30th, 1898 the company was taken over by Tucker, Anthony & Company of Boston, a firm which made many improvements and extensions, including the installation of vestibules on all closed cars in 1899 to protect the motormen from the weather and the addition of electric heaters to all cars for the comfort of passengers. On July 24, 1900 the first car ran on the eight-mile extension to Goffstown, and in 1901 the trolley line was extended into Goffs Falls and the busy Massabesic line was double-tracked.

Another big change was the formation of a new corporate outfit on February 13, 1901. This was the holding company, Manchester Traction, Light & Power Company, which took control of the Manchester Street Railway together with several underlying Elm City railway outfits such as the Manchester & Nashua and Manchester & Derry Street Railways. When Pine Island Park was opened in 1902 near Goffs Falls, tracks were extended from Webster Street to the Hooksett line to connect with the newly-built Concord & Manchester Branch of the Boston & Maine, which was electrically operated then. Service opened on the B&M's new line on August 11th, with passengers being obliged to transfer to the Hooksett line of the Manchester local system until through service into downtown Manchester was established on September 9, 1903.

In 1906 the Uncanoonuc Incline Railway & Development Company opened a short line from the end of the Goffstown route of the Manchester Street Railway to the incline railway which had been constructed at the base of the mountain. Service for most of the years was given by a single-trucked open car, formerly operated by the Manchester system. This incline railway was electrically operated, rather unusual for a mountain line, and continued running up until 1949 when a severe storm caused so much destruction that it had to be abandoned.

IN ITS HEYDAY the Manchester system operated 93 cars over 42 miles of track. Routes of the cars were Derryfield Park-Notre Dame; Webster & Beech Streets-Massabesic Lake; Gilman's Cor-

RAPID TRANSIT, 1877 STYLE. Narrow-gage Manchester Horse Railroad's No. 1 made first run down the length of Elm Street. By 1892 three-foot-wide line totalled 12 miles through extensions

PARLOR CAR. Lush City of Manchester, Briggs-built in 1897, is being restored to original elegance by New England Railway Historical Society's Seashore Electric Railway in Kennebunkport, Me.

ODD OPERATION. Motormen never bothered changing trolley pole position when coming back down A Street spur off St. Joseph's Cemetery line. Example: No. 88 heading toward camera with pole in reverse

TIME STOP. No. 86 on Elm Street in center of city 15 years ago. Cars on this page were built by Laconia in 1902

SIDE-OF-ROAD TRACK. High-trucked No. 92 on Pinardville line. Series' six jobs were 28-footers

ner-Webster Street via Lake Avenue; Gilman's Corner-Valley Street via Manchester Street; East Manchester-Mammoth Road via Manchester & Valley Streets; North End-South Main & Milford Streets; North End-Pinardville; North End-A Street; North End-St. Joseph's Cemetery, and Transfer Station-Hooksett line. Service was fairly frequent on the local lines; there was half-hour service to Goff's Falls and Massabesic Lake, and hourly on the Goffstown route.

The A Street line was an unusual operation. Originally it was a separate route in itself, however short a stub off the St. Joseph's Cemetery line it actually was. In later years the Cemetery cars served it. When a passenger on a car going out to the cemetery wanted to get off along the A Street spur, the motorman switched the car up that line as far as the passenger was going. Then he came back without changing the trolley pole, and up the main track again to the end. In the same

manner, cars leaving the cemetery backed up A Street with poles unchanged, then came down to join the main track without changing poles.

Equipment was of a heterogenous nature. Cars, both open and closed, were built by an assorted group of manufacturers—Laconia, Brill, Stephenson, Jackson & Sharpe, Cincinnati, Kuhlman, Briggs, Newburyport and Osgood-Bradley. Among the proud possessions of the line for many years was the single-trucked parlor car, *City of Manchester,* which carried groups of officials along the railway system. The private car was scrapped about 20 years ago, with the ornamental iron body being dumped in a field. It was rescued in 1948 by members of the New England Electric Railway Historical Society, and is now being restored to its original condition at the group's Seashore Electric Railway in Kennebunkport, Maine.

The main carbarn of the Manchester system was located on appropriately-named Traction Street, and smaller barns were at Pinardville and Massabesic Lake. The Manchester Street Railway stored its cars in the Traction Street barn, along with the vehicles of the interurban Manchester & Nashua and the local Manchester & Derry Street Railway. The decline of the Manchester system was preceded by the folding of these interurban lines in the 1920s, and one-man cars were introduced as a tightening-up measure on the Manchester system in 1924.

YEARS LATER, on December 1, 1937, the holding company was taken over by the New Hampshire Public Service Company. Hardly had one month passed when the new owners abandoned the Goffstown trolleys on January 8, 1938, and replaced them with two buses. However, the old, wooden trolleys continued rolling down the streets of Manchester for two years, and the buses of the Goffstown line seemed rather strange in a city which had used nothing but maroon-and-cream trolleys as public transportation since 1877.

In any event, the lifetime of the Manchester cars was nearing an end. Duplicating the trip of the first electric car over the trolley system 45 years before, Operator James Herod rolled Car 86 down Elm Street to the North End and back on Wednesday, May 29, 1940, and when the car reached the end of the line 10,000,000 miles of electric car travel had become a

UNEVEN NUMBER. Manchester's open cars had odd numerals, closed vehicles even ones. Many open trolleys were built in Author O. R. Cummings' hometown, Newburyport, Mass., including No. 111, fitted with arc headlight for summer use on Goffstown line

ELM STREET. When Co-Author Steve Maguire visited Manchester in October '39, latest Tarzan was swinging across Globe Theatre screen while Cars 88, 48 and 200 were slowly jogging along wide main stem

LAKEBOUND. Enroute to Massabesic, streetcar passed through residential section. Brill-built No. 74 was acquired from the Connecticut Company

BUSY INTERSECTION. Where Elm and Traction Streets meet, a special dominated gathering of four different builder types—Laconia (No. 38), Manchester's own (46), Brill (138) and Cincinnati (No. 46)

memory, with the entire system being converted over to bus operation, much to the dismay of invited guest J. Brodie Smith, who had been general manager of the railway for many years.

Since then, two other pieces of Manchester equipment in addition to the parlor car *City of Manchester* have been preserved at Kennebunkport. Car 38, one of the Manchester & Nashua interurbans, was saved largely through the efforts of Howard Maier, Manchester railfan, and sent to the museum, and a small local vehicle, single-trucker No. 60, was kept through the work of the Kennebunkport group. If you are interested, all three cars are now on exhibition on the Seashore Electric tracks.

Those who were table to visit Manchester and ride its antiquated trolleys before their end came in 1940 were fortunate in being able to share in an experience that is becoming more and more of a rarity these days in many cities throughout the United States. Those of us who are still interested in electric cars are fortunate, too, because through the efforts of others a parlor car, a little local trolley and an interurban have been preserved, representing pieces of equipment of what was once the Manchester Street Railway.

LATER MODEL. Four cars in 200 series were Manchester's newest, first served in Michigan on Saginaw Bay City Railway. Scene? Elm Street again, Deerfield Park-bound car

OUTBOUND. Railway also bought eight cars, Nos. 130-144, from Connecticut Company. Maroon-and-cream Nos. 132 is shown crossing on way to Pine Island Park. (Roster of the Manchester Street Railway and its affiliates appears on next page)

MS CONTEMPORARY. One of large interurbans built by Laconia for Manchester & Nashua Street Railway had regular seats removed and wicker chairs installed. Car later was rebuilt into portable rotary substation

SERVICE EQUIPMENT. X-19 was flatcar fitted by Manchester with appurtenances and pair of motors for each Taunton truck, for track work

Equipment of Manchester Street Railway and affiliates

Closed Cars (even numbers)

Numbers	Type	Trucks	Motors	Control	Builder
2–12	34′ box	Std. 0–50	4–GE80	K–28	Laconia, 1906
30–40	29′ box	Lac. 9B1	4–GE80	K–28	Laconia, 1907
Original No. 38 destroyed in fire, and #32 renumbered #38, now owned by New England Railway Historical Society					
42*	30′ box	Std. 0–50	4–GE67	K–6	Stephenson, 1903
44*	30′ box	Br. 27G1	4–GE67	K–6	Stephenson, 1903
**Purchased December 1921 from Eastern Massachusetts Street Railway as Nos. 654, 655*					
46, 48, 52, 56	26′6″ box	Lac. 8B	4–GE57	K–28	Manchester St. Ry.
50, 54, 58, 60*, 68	20′1″ box	Br. 21E	2–GE57	K–10	Laconia
**No. 60 now owned by New England Railway Historical Society*					
62–66	20′1″ box	Br. 21E	2–GE67	K–10	Manchester St. Ry. (rblt.)
70, 72	25′ box	Lac. 8B	4–GE67	K–6	Laconia
74*	28′ box	Br. 27F	4–GE67	K–6	Brill
**Acquired from Connecticut Company*					
76–80	28′ box	Br. 27G	4–GE67	K–6	Brill
82–92	28′ box	Lac. 8B2	4–GE67	K–6	Laconia, 1902
94–116	20′2″ box	Br. 21E	2–GE80	K–10	Laconia
118–128	26′6″ box	Std. 0–50	2–GE80	K–35	Laconia, 1913
*130, 134, 136	29′ 8″ box	Br. 27F	4–GE67	K–6	Jackson & Sharpe
*132	29′8″ box	Lac. 8B	4–GE67	K–6	Jackson & Sharpe
*138–144	28′ box	Br. 27G	4–GE67	K–6	Brill
**Acquired from Connecticut Company*					
*146–152	28′ semi	Br 27E1	4–GE67	K–28	Kuhlman, 1907
**Purchased December 1921 from Eastern Massachusetts Street Railway as Nos. 1380, 1385, 1389, 1390*					
*200–202	42′ box	St. Louis	4–WH508	K–35	Cincinnati
*204, 206	42′ box	Cincinnati	4–WH508	K–35	Cincinnati
**Purchased in 1930 from Saginaw Bay City Railway*					

Open Cars (odd numbers)

Numbers	Type	Trucks	Motors*	Control	Builder
51–81	9–bench	Br. 21E	1–GE80	K 2	Laconia
83–95	10–bench	Br. 21E	2–GE67	K–10	Briggs
97, 111	13–bench	Br. 27G	2–GE67	K–11	Newburyport
99	13–bench	Lac. 8B	2–GE67	K–10	Newburyport
101, 109	13–bench	Br. 27G	2–GE67	K–10	Newburyport
103, 107	13–bench	Pck. 14B3	2–GE67	K–11	Newburyport
105	13–bench	Lac. 8B	2–GE67	K–11	Newburyport
113–119	13–bench	Br. 27G	2–GE203	K–10	Brill
121–149	13–bench	Bemis 45	2–GE67	K–10	Osgood-Bradley
151–159	13–bench	Lac. 8B	2–GE67	K–10	Laconia
City of Manchester	Parlor Car	Peckham	.....	.....	Briggs, 1897

Service Cars

Numbers	Type	Trucks	Motors	Control	Builder
X-1	DT Rotary	Ruggles	4–GE67	K–6	Ruggles
X-2	DT Sweeper	McGuire	4–GE80	K–6	McGuire
X–3, X–4	DT Nose Plow	Wason	4–GE67	K–6	Wason
X–6, X–9	DT Shear Plow	Wason	4–GE67	K–6	Wason
X–10	ST Shear Plow	Wason	2–GE67	K–10	Wason
X–11, X–12	ST Shear Plow	Taunton	2–GE67	K–10	Taunton
X–16, X–19	DT Flat	Std. 0–50	4–GE80	K–6	Manchester St. Ry.
X–18	DT Line	Br. 27G	4–GE80	K–6	Manchester St. Ry.

Philip Friend, Elmhurst, N.Y.

WELFARE CAR. Queensboro Bridge Railway serves New York City's public institutions on Welfare Island, No. 601 and five sister trolleys running from terminal at Second Avenue and 59th Street in Manhattan over East River side-of-bridge rails to Queens Plaza in Long Island City, above

Carbarn Comment

Conducted by TED SANCHAGRIN

DOUBLE JEOPARDY. In Minneapolis one night a patron of the Twin City Rapid Transit Company was held up twice within 15 minutes by the same two men. The victim, 58-year-old Edwin Peterson, gave this account to police:

One of the bandits stuck a revolver in his ribs when he left a streetcar, took $5 from his wallet, and left him with $1 for carfare. Peterson boarded another car, rode a mile and alighted. Two men came up behind him and demanded his money. Peterson told them, "I haven't got any. I was just held up 15 minutes ago." The bandits exclaimed, "You're the same guy we just held up. Why don't you go home!"

CAR ORDER. The Toronto Transportation Commission has given its $7,800,000 contract for the construction of 104 cars for the Yonge Street Subway to the Gloucester Railway, Carriage & Wagon Company in England. The subway is expected to be completed this year. Gloucester is an old and experienced outfit which has been designing and building rolling stock for railways throughout the world since 1860, including many of the cars now running in the London underground.

Modern Transport of London notes that the order was obtained in the face of other British, Canadian, American and European competition. TTC engineers visited carbuilding plants and studied

rapid transit operations on both sides of the ocean before selecting the English firm. Originally, Toronto intended to buy shorter vehicles similar to streetcars now running there, but the adaptation of equipment to rapid transit operation was found to be too expensive. So was the type of heavy rolling stock used in New York City's subways.

The Toronto cars will be 57 feet long, 10 feet wide, weigh 30½ tons, seat 62 passengers, and will have three sliding doors on each side. They'll be used in multiples of two, depending on the traffic density.

* * *

SHOW CAR. On permanent display at Travel Town in Griffith Park in Los Angeles is an old LA Railway streetcar, No. 536, complete with trucks and operating equipment. Fred Beasley of Glendale, Calif., says this trolley was built by the St. Louis Car Company in 1906. Retired from service last year, it was given to the City of Los Angeles on July 31, 1952, for preservation in Griffith Park. That's where Southern Pacific's 4-4-2 type, No. 3025, has also been set up.

* * *

DISCONTINUANCE of passenger trains on the Staten Island Rapid Transit Railway's 5-mile North Shore line from St. George to Arlington and on the 4-mile East Shore run from St. George to South Beach has evoked childhood memories from Albert Davis, who was born in Port Richmond in 1872 and who now lives in East Orange, N.J. Competition from cheaper-fare city-owned buses forced the cut.

Before the opening of the railroad, said Davis in a letter to the *New York Herald Tribune,* the only means of passenger transportation between the North Shore and New York City was a line of steamboats owned and operated by John Starin. The boats stopped at New Brighton, Sailors Snug Harbor, West Brighton, Port Richmond, Elm Park and Mariners Harbor.

"Great was the excitement, especially among the boys of Port Richmond when, early in the 1880s, we saw ground broken for a railroad to run from Erastina (beyond Mariners Harbor) to St. George, the nearest point on the Island of Manhattan," Davis said. "St. George has been the terminal of the New York-Staten Island ferries ever since Erastus Wiman began running his rapid transit trains along the North Shore to St. George and along the East Shore to Tompkinsville, Stapleton and Clifton. To stimulate traffic Wiman promoted huge amusement spectacles at Erastina and St. George.

"During the entire summer," said Davis, "Buffalo Bill and his show lured travelers to Erastina to see a presentation of the Wild West, which had ceased being wild only a few years before. This may have been in the summer of 1887, for I remember distinctly that Wiman, with his flair for things British, played up in connection with the Wild West show the 50th anniversary of the coronation of Queen Victoria."

Paul K. Partee, general manager of the B&O-owned SIRT, says some senior men still operate freight trains over the North Shore and East Shore, and others have been switched to the 14-mile main run from St. George to Tottenville, where the Public Service Commission has refused to cut passenger service. About 40 men with less seniority have been laid off, including an electrician with 29 years who was the junior of nine men in his department. There have been several local inquiries about the 20 multiple-unit cars for sale, and one from Japan.

* * *

WANTED. Larry McCarty of 774 Woodland Drive, Sierra Madre, Calif., seeks information regarding the streetcars that used to roam up and down the hills in Kansas City, Mo., back around 1890 or 1900. "As a child I rode these contraptions. They had some kind of steam engine in the front end, and I have never seen anything like them anywhere else, but perhaps that is because I didn't get around much in those days."

NEW YORK UNDERGROUND. Alexander James Anagnos, 25-year-old Army veteran, artist, grocery clerk and composer who has spent many nights in the past three years chalking the cryptic slogan, *An Onion and You,* on countless subway staircases in Manhattan, Brooklyn, Bronx and Queens, says he did it to promote his song of the same name, recorded by Rosemary Clooney's sister, Betty. He also says he'll move to Philadelphia and start working on the subway steps there if New York's subway riders don't start singing his song.

Meyer Berger disclosed in one of his *About New York* columns in the New *York Times* that when the first subway went into operation in New York City 50 years ago come 1954, physicians of high repute warned that the vision of passengers and train crews would be destroyed by constant staring at posts flashing by.

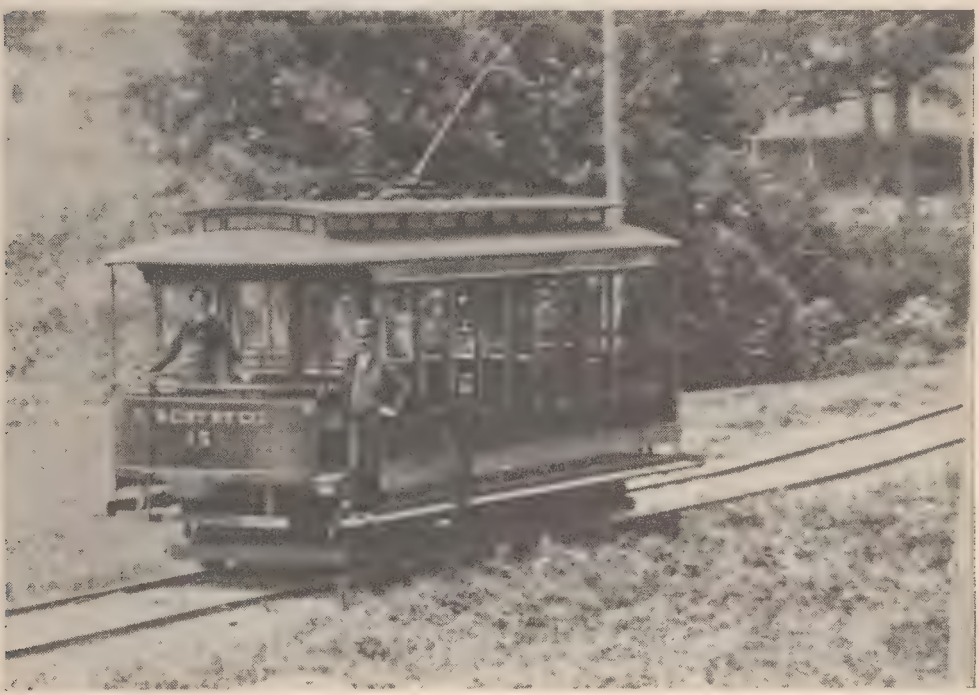
Now that you mention it, we haven't seen any such symptoms, but BMT motorman Charley Parker of Laurelton, Queens, tells how platform standees appear to him from his speeding cab: "They look like heads of cabbage." Parker, retired recently after more than 50 years with what is now the BMT division of the city subway system, volunteered the information on a strictly friendly basis to reporters on his final trip from Coney Island to Times Square and back. In 1902 his first job was as a conductor on a cable car over the Brooklyn Bridge when the pay was 20 cents an hour for ten hours a day, seven days a week.

* * *

LOVE THAT ROAD. During the four-day strike of Philadelphia's streetcar, subway and bus lines last January, the Pennsylvania Railroad helped keep the city's businesses and industries running, aided by extra equipment plus regular and extra PRR workers from the Accounting and Police Departments.

BAY STATE OLDTIMER. Shelburne Falls & Colrain Street Railway has long been forgotten by most Massachusetts juicefans. Today Shelburne Falls is served by B&M's Boston-Troy trains, and Colrain has no rail link

C.P. Call Photo, Courtesy of Andrew Wuttenborn



C. W. Burns, Canton, O.

GOOD INTENTIONS. Super Birney car was rebuilt from standard one in 1931 by Penn-Ohio System, but depression thwarted similar plans for 15 other such vehicles of company's New Castle (Pa.) Street Railway, and buses took over

To handle the extra traffic, the Pennsy, which began preparing for such an affair when the strike was first mentioned a month before, brought in a fleet of 62 additional multiple-unit cars from other points. Numerous reassignments provided equipment for 20 shuttles that averaged five trips apiece to town and suburban points, supplementing 480 scheduled suburban trains which also made many extra hops.

During the transit strike, the railroad carried more than a half million passengers, twice the normal amount. Small stops within the city limits, Suburban and 30th Street stations, got most of the loads. Frankford Junction, which normally receives only 10 commuters daily, handled 2000; 49th Street and Angora Street stations, usually serving only 50 and 180 riders daily, each handled more than 5000. Meanwhile, autoists parked their cars on the unused midtown trolley tracks.

One letter of gratitude in the *Philadelphia Inquirer* from a commuter commending the PRR was representative of the public's feeling: "Very soon we will all probably be back griping when the 8:12 doesn't reach our platform until 8:14, but right now we love the Pennsylvania Railroad."

* * *

PUBLICATIONS. Vincent F. Seyfried has written an 82-page history, *New York & Long Island Traction Company,* available from Felix E. Reifschneider, PO Box 774, Orlando, Fla., for $1.25. Reifschneider, who handled the proofreading and publication of Seyfried's manuscript, says the booklet, which is loaded with pictures and text, is the largest they have put out so far.

In the preface Seyfried states, "It seems especially appropriate, somehow, that this little study should appear on this 50th anniversary of the company's founding. In the quarter century that has passed since the Traction's demise, the system has been almost forgotten, and its history fallen into an obscurity altogether undeserved. This little book is written in the hope of restoring to the Traction the prestige and respect it enjoyed fifty years ago, and to immortalize for future generations the successes and failures, the hopes and accomplishments of Long Island's first great adventure in interurban transit."

* * *

OFF BASE. Raymond Corley of the Upper Canada Railway Society says Ray Mermet shouldn't have added the Waterloo-Wellington Railway as another Canadian electric line (page 99, March) because this line was eventually part of the Kitchener-Waterloo Street Railway, already listed in *Canadian Streetcars* (October '52).

Corley explains: "The Berlin & Bridgeport Electric Street Railway was incorporated in 1901 to build a line from Kitchener to Bridgeport, and the name was changed to the Berlin & Northern Railway in 1919. In 1924 the line was acquired and made part of the Kitchener-Waterloo system and wasn't abandoned until 1939, not 1926. Perhaps Mermet got his information from statistical summaries issued annually, which are misleading as to the true facts of line history. A complete history of this route is contained in our society's Bulletin 22."

Picture of the Laurel Line car on page 98, March '53, should have been credited to Edward S. Miller, not Walker, a gremlin from the Chard Walker item about the *Descanso* car.

Passenger travel is light on the Hagerstown & Frederick Railway in Maryland, corrects E. D. Wenmore of Chicago, who challenges the *Money Maker* caption, page 95, April '53.

Regarding the picture in the *Sand Springs Railway* article, page 88, February '53, James Stuck of Dayton, O., says, "If I remember correctly, Car 69 is coming back from Sand Springs while Car 74 is headed there. Upon entering Sand Springs, all turns are to the right, and when cars return to double track they all must cross over the eastbound rails to start the return trip to Tulsa. At least that's the way we went last summer."

The Frog PROMOTERS

THE STRANGER came in and joined the circle around the pot-bellied freight office stove; pulled up a chair and sat down as though he belonged there. The boys knew him only as a man who had hung around the freight house and KK office for two or three days, and who had asked if they needed any telegraph operators; when informed they could use one he had ignored the offer.

Some of the boys had come down that night to do a little extra work; others had dropped in because it was snowing outside; and the usual stories and statistical spoutings had gone around. Then there was one of those lulls which mean someone is going to yawn, get up and go home, soon to be followed by the others.

But the lull did not run its full course. The stranger shifted his position, settled himself in his chair, and with a wry grin began to speak.

"As for all the stories and statistics you fellows been blowing out like cinders, you ought to meet up with Froglegs Jump just once. For being able to give you the facts on any subject right out of his head, I never heard of anybody that could knock the scale out of Froglegs' boiler."

I let him have the "Official Guide" aside the head—ain't nothing quite so handy around the office

Seemed like he worked a double shift—one billing freight, and the other running an information bureau—just kept on talking and billing freight all the while. He'd be rambling right along on schedule, scooping out waybills. But you just let someone say something like "C&O 101,-423" and Froglegs would whistle in with, "Wrong you are. Ain't no C&O car that number—maybe B&O gondola—probably one of the 1500 that B&O got from the American Car and Foundry Company six years ago: pressed steel construction, 60-foot long, fifty ton capacity, M.C.B. drawbars. Guess there's not more than 1499 of 'em now—saw one smashed up at milepost 767, ten miles south of Ft. Worth on the Katy, three years ago—Extra 956 it was." He would go on for hours like this, one fact biting the heels of another.

You see, Froglegs just couldn't forget anything. He had a lot of information stored away, and like a pat rack it didn't make any difference to him whether it was useful or not. Telling him anything was like talking into a phonograph; all he had to do was play the record back, and the whole thing came out exactly like it went in.

And inquisitive! No name for it. If he heard that an engine foreman was going to explain a new power reverse gear down at the roundhouse, he'd be right there with his nose in the cog wheels ahead of everybody else. And for the next month, he'd tell you all about it, practically in the foreman's own words, mistakes and all.

But I'm getting ahead of my story. You see, I met up with Froglegs a long time before I headed into him at Argentine—the place I've been telling you about—in fact, before he got his name of Froglegs. I was headed for the Coast, but the Con put me off the cushions at Billings because he claimed it was impossible for anybody to ride west of there without a ticket. Since I'm never in a hurry anyhow, I didn't get hysterical about it.

It was cold, so I went over to the station where I found a young fellow pounding a key. I got to talking to him when he wasn't busy, which was pretty often because it was New Year's day. When he saw I was the real McCoy, he loosened up and began to disseminate statistics, and among other things that his name was Hill Harriman Huntington Jump. He sent a fair grade of Morse, but a little ragged in spots, so I got him to let me show him a thing or two.

He handed me three or four pages of something that looked like a commercial agent's report and told me to send it. I let her ramble in my best style, and brother! it's fast stuff I tell you! The fellow at the other end broke in with, "I see the population of Billings has been increased by one real telegrapher; where you from?" I said, "Chicago and points east."

WHEN H.H.H. saw he was in with an old hand, he was sure pleased. And he pumped and pumped me till I didn't have a bit of information left. I didn't know at the time that he had such a whale of a memory or I wouldn't have told him so much. I was particularly sorry I told him about the time Ed Cassner and I tried to run the rats out of the wharf at Jersey City. He always called me Wharfrat after that, which hardly comported with my dignity. But it has stuck to me ever since. Yes boys, I'm Wharfrat Jenkins.

Well, he asked me where I was headed, adding kind of shylike that he'd been in Billings long enough. I got the hint, and being a friendly sort of guy, asked him to come with me to the Coast. So we started out via Denver, and banged around for a couple of months together. What with the usual ups and downs that make up a railroader's life, we got to know each other pretty well.

But finally, I began getting a little homesick for the East, so H.H.H. and I separated and I went back, working at a few jobs around one line or another. The figure of H.H.H. Jump got dimmer and dimmer to me as the years and trains went by. But he didn't forget me—by gosh—he never forgot anything or anybody.

One day I got a letter from him on official-looking paper which read at the top, "Jump Frogless Switch Corporation, H.H.H. Jump, President and General Manager." It began, "Dear Wharfrat," and went on to say that he had invented and was marketing the greatest improvement in railroads since the sleeping car—a frogless switch that was as quiet as a bum sleeping in an empty boxcar. The switch was his idea, and he had collaborated with an outstanding mechanical engineer named Schploff. Together, they had perfected and patented this epochal boon to the passenger, the Jump Frogless Switch. Well, he wanted me to come right down to New York and see this great invention that was going to revolutionize the railroads of the U. S. A. There was going to be so much money in it they wouldn't know what to do with it, so they might as well cut me in.

It was a surprise, just like having a switch engine back into you. But then, I remembered a lecture he had once given me when we were watching a drag clatter over a switch at the Rock Island yards:

"Wharfrat," he says, "See that frog? Do you know on the railroads of the United States there are 1,376,942 (or some such number) switches of which 734,698 are on main lines and 642,244 are in yards? And do you know that every one of those switches has a frog and every freight car that passes over it has four wheels on the frog side and every passenger has four to six wheels, all of which rattle over that frog; and all told, that makes so many billions of clicks every day?"

I realized that the whole business had just kept working on him, until he had come up with this scheme.

Well, I didn't take much water at that kind of tank. I'm a telegrapher and general all-around railroad man, and I wasn't switched in for a millionaire. But to tell the truth, I was just a little curious to see that switch and its inventor.

So I went down to New York, and we were sure glad to see each other. The first thing he did was present me with 50,000 shares of Jump Frogless Switch stock at par value of $1.00 each, just like that. That sounds like a lot, but Jump and Schploff had 500,000 shares apiece and were rich. Then they made me General Sales Agent in charge of both stock and switch sales. I really became enthusiastic when I saw their office, which was full of models of frogless switches. And they all worked fine.

So I got right busy selling stock and switches, but mostly stock. I figured it takes intellect to appreciate a thing like we had, and I was right—I sold my first stock to a college professor, who began peeling off bills before I got half through explaining the switch to him. After that, it was plain sailing, and I must have sold thousands of shares to men of his astute caliber. We lost count after a while, because, if a man bought a hundred shares right off without much argument, we just sent him an extra fifty and asked him to talk it up with his neighbors. My gosh, I made more money that first year than I did on the railroad my whole life.

THINGS WERE GOING just like the *Manhattan Limited* till we ran out of stock certificates and we called up our lawyer. When he heard what we were doing, I tell you his steam pressure went up. He wanted to know how we were ever going to hold a stockholders' meeting if we didn't know who the stockholders were. Well, of course, we just gave him the highball on that.

"Meeting of the stockholders," sniffed Schploff, "What do you think this is, a literary society? What do we want to meet the stockholders for, when we already met them once?"

We figured lawyers are just stuffed full of useless technicalities, so we threw that one into the wastebasket.

Well, one day, H.H.H. said it was time to sell some switches and we'd have to hit the road. We already had managed to get one into the Jersey Central yards at Newark, and you should have seen it work. It was just as smooth as a silk necktie. When a drag ran over it you

could have heard a diamond stick-pin drop.

We headed right onto the main line and took the two big rivals, the New York Central and Pennsy, to get them bidding against each other, both trying to get frogless switches first. We whipped up enthusiasm for it from the road and yardmasters to the traffic managers, and finally the presidents. We laid enough letters, recommendations, specifications and drawings on their desks to fill a boxcar. The upshot of it was they passed it all up to a fellow called the Chairman of the Board, and he took it under advisement.

Those two Chairmen of the Board had it under advisement for a long time, too long for comfort. One day, I met an old buddy I knew on the L&N in Louisville, who was now private secretary of one of the directors. He told me quite confidentially, "Wharfrat, there isn't a chance. Don't you see, it's like this; our line has 47,238 switches, and those switches have cost us an average of $967.52 each; their junk value would be an average of $117.41 each. We would be ditching over seven million dollars by replacing them with your switches."

Well, I could see his point all right. But we still kept trying, travelling south, west and north, until dozens of chairmen of the boards had it under advisement. It made your heart bleed to think of all those fellows worrying over the problem.

By and by, though, our stockholders' money ran out, so Froglegs and me got ourselves a couple of jobs over at Memphis. Pretty soon, we were eating right on schedule again. Schploff got to working on an invention of a new kind of turntable, and we sort of lost track of him.

One day Froglegs slapped me on the back, "Wharfrat, when are we going to take another trip to the Coast—like the one we took just fourteen years ago the fifth of next month?"

"Highball," I said. "Suits me to a T. When do we start?"

Boomer dust had settled on us, and off we went. I thought the jinx was on us when we were held up at Green River behind a train of empty boxcars that had piled up in a cut, with no way to shoofly around them. I wasn't surprised to see Froglegs pile out to stick his nose right into the wreck. Couple of hours later, he came back running over with details and particulars.

"Met an old friend down there," he said.

"Who was he?"

"PRR 100,000. I billed that car out of Altoona, first of July just seventeen years ago; new car, first load it ever carried—all smashed up now."

I thought he was going to give me the history of every other car in the train, and my ears began quivering in anticipation. But there was a nice looking old gent standing near us who interrupted.

"I see you gentlemen are railroad men."

"More than that," I said. "I'm Wharfrat Jenkins and this is Froglegs Jump. Modesty prevents me from saying we're the best in our special field. But how about you, Mister— ?"

"Crenshaw," he supplied.

"Mr. Crenshaw, I just have the hunch you are a railroad man too. I'm pretty hard to fool on smokeaters." It was a long shot, but it hit.

"Well, I am in a way," he said. "I'm not in operations but am interested, very much interested from the investment standpoint."

Oh, stockholder," I said. (Stockholders were something Froglegs and me were no longer enthusiastic about.)

"Yes, I'm associated with stockholders and, if a certain plan works out, I may be more closely associated with them. I now have the matter under advisement."

"You must be the chairman of the board," I said.

HE LAUGHED and said, "No, but I might be before long." He turned to Froglegs and asked, "How long will we be held here? Is the wreck clearing up?"

That sort of put Crenshaw and me on the siding while Froglegs headed in on the main. I reckon he talked for an hour.

After he told us about the wreck (what

caused it, how many cars derailed etc.) he was reminded of all the other wrecks he had seen, and gave us an account of them. One of the wrecks was a bridge, which got him to talking about them; bridges suggested tunnels, and tunnels brought up grades and curves. He just rambled on, never missing a fact or figure as far as I could tell.

Old Crenshaw was mighty interested, you bet. By that time we were all sitting on a baggage truck, and I guess we'd have been there yet if pulling-out time hadn't come. Crenshaw told us he'd be delighted if we'd take dinner with him, and we snapped his invitation up. We went into the diner and he fed us right. We learned he was a retired furniture manufacturer from Grand Rapids, but had been living in Los Angeles for three years at the Miltbore Hotel; and he hoped we would visit him. He asked us where we were going to stay.

I said, "Mr. Crenshaw, you come down to the yards and find the house that's nearest to the tracks, and that's where we'll be. We don't thrive in pure air; it's got to have a reasonable amount of smoke to sweeten it up. I can't go to sleep unless there's an old tallowpot out front ringing a bell or blowing off steam."

He laughed, and said he hoped to see us in the morning. Well, for the rest of the trip he clung on to us as if we were a couple of wayward sons, and we didn't pay for one meal from there into Los Angeles.

One thing bothering me was why Froglegs didn't open up on the subject of switches. But he was cute. He waited until we were all in the club car one day, and rattled over a flock of frogs about ten cars in length. That made such a racket we had to stop talking. Mr. Crenshaw wondered out loud why somebody didn't do something about such switches.

"It has been done," said Froglegs, nonchalantly. "I did it myself; supposed you knew I was Froglegs Jump, the originator and co-patentee of the Jump Frogless Switch." And he went back to our car and took down his big suitcase containing the model. Was old Crenshaw impressed! Not only Crenshaw, but the whole carload of people crowded around it. Even the Con and flagman became so interested they didn't hear the train stop, and the flagman forgot to drop off at the rear end.

I tell you it was dramatic—springing the dénouement at just the right time. Old Crenshaw was just about speechless.

"Boys," he said, "I'm tremendously interested. You know I told you to look me up in Los Angeles, and don't think that's just a courteous way of saying goodbye. I really want to see you, so let's set a date. Come to the Miltbore and have lunch with me, day after tomorrow at 12:30."

We said that was fine, and when we got off at Los Angeles, we shook hands all around, and I was so excited I shook hands with Froglegs before I thought.

Well, we went to a boarding house run by a lady of Gaelic extraction, name of McGilley. We liked it because there was a lead right past the front door; and just about a block away, a switch shanty where we could go and confederate with the dregs of the railroad world. We figured it was a good place to start talking up switches, and to get a line on the old man—whether he's the kind who won't let you go in, or lets you in just to throw you out. So the next day we took the model frogless switch down there, and after one demonstration, enthusiasm for it spread like wildfire. By night, it had worked up to the trainmaster. But I hated to see things going too smoothly, because the faster we went, the sooner we'd get to the chairman of the board.

Well, the next day we walked into the Miltbore at 12:30 on the nose, but Crenshaw didn't get there till 12:34. Froglegs pulled out his watch and asked, "Running a little late today, Mr. Crenshaw?"

The old man was in fine fettle, and he just roared, "Oh, ha, ha!" and slapped us on the backs. "You boys are always running railroads. I told you I wasn't in operations. Now just come into the dining room and let's eat."

IT WAS A SWELL PLACE—everything that wasn't silver and cut-glass was plush and gold. And the eats were every bit as good as Mrs. McGilley's.

After we finished, old Crenshaw leaned back and said, "Boys, I'd like to get your ideas on some big railroad problems. What would you think about merging and consolidating all the railroads of the United States into one big system; doing away with all the different companies and managements and making it all one big company. Think of all the savings gained by eliminating competition and the commercial, freight and passenger agents and solicitors. Just see how freight terminals could be consolidated, and every depot in the country made a union depot. The possibilities seem almost endless, for I have mentioned only a few."

Well, if he had hit me and Froglegs in the face with the *Equipment Register,* we couldn't have been more surprised. We didn't have enough steam to blow a whistle.

Finally I got over the hump and said, "Wouldn't work, Mr. Crenshaw."

"Why?" he asked.

"Well," I said, "There's 1756 roads of all classes in the United States. (I'd picked that up from Froglegs). Every one of those 1756 roads has a chairman of the board; sooner or later you'd run up against those chairmen, and every last one of them would take it under advisement. That's the last you'd ever hear of the matter unless you met 'em in Heaven or Hoboken."

By that time, Froglegs had got up steam and he gave old Crenshaw the finest lecture you ever heard; it was just beautiful the way he took the scheme all to pieces, so nobody could put it together again. Then he wound up with the sweetest peroration you'd ever want to hear.

"Why," he said, "It would take the Interstate Commerce Commission forty years to unscramble a batch of eggs like that. You might as well talk about rolling all the people of the United States up and making one big giant. Railroads have individualty, personality, just like people. Some are smart and others ain't. Some are full of zip and others are lazy. Competition? Why competition makes railroads get up and jump. Cost money? Course it does, but it's worth ten times what it costs. Just suppose the Santa Fe took two weeks to get a car of oranges from here to New York and the UP comes along and does it in eight days; how long is the Santa Fe going to haul oranges? Now just suppose there's only one road and they took a month—what are you going to do about it? You go monkeying and mess 'em up like you say and I'm out. No more railroading for me. Fact there wouldn't be any railroading then."

When he got through he was crying as if he had just heard his whole family had been killed in a wreck.

It was old Crenshaw's turn to look as if we'd hit him with the *Equipment Register.* He was sure ready for the repair track. He just sat there thinking. After a while he said:

"Boys, I want you to do me a favor."

We'd just done him one, but we said, "Sure."

"Now listen," he said, "at three o'clock, I have an appointment with two men on a most important matter. It's strictly confidential, but I want you to go along with me. You won't be allowed to hear what we say, but I just want you to keep your eyes and ears open, and take everything in. You, Froglegs, will be my secretary and we will have to call you—let's see, what is your first name?"

"Hill," answered Froglegs.

"Mr. Hill," he said, "that's fine; you will be Mr. Hill, my private secretary. And you Wharfrat, you will be—"

"Mr. James," I said.

"Yes, Mr. James, my bookkeeper. Now you boys must be sure not to start calling each other 'Froglegs' and 'Wharfrat' or you'll spoil everything; it must be 'Mr. Hill' and 'Mr. James'.

"We'll sure need a lot of practice," said Froglegs. "How do you do, Mr. James. How are all the little Jim Jams at your house?"

"Fine," I replied. "How are you, Mr. Hill, and all the little hillbillies?"

IT WAS ALMOST three o'clock, so we all went down to the Woosley Building to meet Crenshaw's appointment. On the fifth floor, at the end of a long hall, Crenshaw knocked four times. After a minute or so, the door opened by itself—electric latch I guess. We entered a great big office with railroad maps all over the walls, and tables piled up with all kinds of railroad books. Swanky, too, just like a chairman of the board's office. Then in marched two big guns who shook hands with Crenshaw, who turned to us and introduced his secretary and bookkeeper. One of those birds was a magnificent piece of scenery: an enormous fellow with pompadour hair, bushy whiskers parted in the middle like a Boston banker, and a foreign accent. His name was Viernst. The other was a small, bald-headed man name Himmer, with a beak like an eagle.

Well, they were all palaver. It was "Let me take your hat, Mr. Crenshaw." "Please be seated, Mr. Hill." "Are you quite comfortable there, Mr. James?" And finally, "Will you gentlemen excuse us while Mr. Crenshaw conducts some private business with us?"

So the three of them went into a glass-partitioned private office and began to whisper urgently to each other, while Froglegs (I mean Mr. Hill) and me began taking in the setup around us.

On a table in the corner stood a telegraph set which began to rattle off a lot of stuff with a few breaks in between. It made absolutely no sense. First I heard railroad initials and numbers come through—probably stock reports. Then that would stop, and it would go off into a long spiel, like somebody making a speech, quite formal and flamboyant. Well, I knew Mr. Hill was taking a mental photograph of every visible thing. I didn't expect to remember very much, but I did listen to the sounder, and I was itching to break in and ask that fellow what he was talking about.

Soon Crenshaw came back with Lord Chesterfield and Prince Albert (that's what we called them afterward) and they bowed and scraped some more to us and we departed.

"Well, what did you think of it, boys?" Mr. Crenshaw asked. "How did you size the place up—and those gentlemen?"

Froglegs nudged me to keep still, so I didn't say anything, while he cocked his head to one side as if he were formulating a weighty answer.

"Too early to say, Mr. Crenshaw, we must take it under advisement and let you know later," he said. I thought that was a whale of a good answer.

"You see, Mr. Crenshaw," he went on, "we've just pulled into the station. Got to take coal and water, feel out the journals and test the air. In other words, we have to correlate our information and weigh the overages and compile our data in final form."

Old Crenshaw was impatient, but we wouldn't cut our train for him, and he had to wait. We said we'd see him in the morning and went back to Mrs. McGilley's. We studiously took off our coats, fired up our pipes, tilted our chairs back against the wall, and put our feet on the table. As I puffed my pipe, I tried figuring what Froglegs was thinking, knowing sure as heck he was trying to guess what I was thinking. But neither of us would let on.

Finally he said, "Well Wharfrat, what's the weight, class and rate on the carload?"

"What you think?" I rejoined snappily.

"I asked you first," he came back.

"WELL," I said, "I haven't touched a drop of liquor since I been railroading, and that's all my life. I've lived up to Rule G, right to the letter. But if things are going to be this crazy when you're sober, a fellow might as well get drunk and maybe they'll make more sense."

"If we had a few more of those fellows, we'd have nuts enough to make ourselves a handcar," he agreed.

"What'd you think of the Morse com-

ing over the wire?" I interrogated him.

Good Morse, all right," he allowed.

"Good? Why man, it was perfect; too darn perfect. Did you ever hear Morse like that before?"

"No, I never did," he admitted, "Fellow must have a mechanical arm to send Morse like that. But where did they get those old maps?"

"What old maps?"

"Why," he said excitedly, "The Burlington didn't show the C&S as part of its system, so it must have been made before that. MKT maps didn't show the Mangum extension. I was up there when they were building that fourteen years ago next January! And those railroad books! *Equipment Register* five years old. *Official Guide* four years old. They must have picked up a bunch of junk somewhere!"

"But what gets me," I said, "is what came over the wire. I could read it all right, but I couldn't understand it. Sounded all balled up."

"Don't you know what that was? That was part of the 1921 Ripley report to the Interstate Commerce Commission recommending a plan for railroad consolidation. The whole thing's as plain as day—kind of foggy day maybe—but plain as day just the same. Those two birds are doctoring up some kind of consolidation scheme, and probably taking old Crenshaw for a ride. But, land sakes, I never heard of anybody with enough pull to carry out such a scheme. That ain't what bothers me though," he went on. "What bothers me is where I've seen that guy Himmer. Plague take it, can't remember anything anymore. Got his class and rate, but can't get him switched onto the right track. Anyhow, I know his name ain't Himmer."

"His name ain't Himmer," I mused, "the maps are old and the books are old. The sounder spells out the Ripley plan of consolidation as if the sender was a machine, the whole thing is as confidential as a board of directors' meeting, and old Crenshaw's all hot and bothered about it. What's the tariff on all that?"

"It's pure bunk, that's what," he said.

Well, I had had enough. "Good gosh, let's get out of here! Let's go somewhere, anywhere! I don't care if it's Paterson or Punkenville."

Then his two feet hit the floor. "Great Moguls and Mikados!" he yelled. "You said it. Paterson, Paterson, New Jersey. That's where I saw Himmer, and his name's Peterson. Pulled off the slickest scheme to bilk the railroads and the banks too; loaded 'em both on the same car and hauled 'em off. Fraudulent bills of lading; made about $40,000 and skipped—never caught him. That was way back in—oh, let's see, dang it—that was back in 1910, March 1910. Yes sir, Wharfrat, we've got some bums on our train and, as far as I'm concerned, we've got to throw 'em off."

Well, I guess my mouth was open like a firebox door, but I got it closed and chirped kind of weak, "You don't say."

"That's the orders," he says, "and you can read 'em backwards and forward and they don't mean anything else."

WELL, WE DIDN'T SLEEP much that night; laid awake talking and making plans and finally got our train all made up. The next day we went to see old Crenshaw right early, because we were afraid that he'd fall for the scheme before we could head him off. Old Crenshaw was just as anxious to see us, and he began to pump us for our opinions. I didn't say a thing, and all Froglegs would tell him was that he mustn't do anything at all until we were ready to report. We'd then spot the car right up to his door and it would be a maximum load and the gross, tare and net would be all absolutely correct.

"You mean you're not ready to report," asked Crenshaw, "but when you do you will make a full disposition of the case?"

"That's it," said Froglegs. "We would like awfully to make another inspection of the cargo, if you could arrange it."

"Well, I don't know," he said ruminatingly. "I guess I can set another meeting for the end of the week."

Well, to make a short story long, three days later old Crenshaw had meeting orders with Lord Chesterfield and Prince Albert, and we all went up there again. After we got through the comedy routine of palavering and switching around, Crenshaw and those birds settled into the little side office, while Froglegs and me began to inspect the road bed. We looked everything up and down and listened to the sounder. The same stuff as the first time was coming over, and the same dead-pan kind of Morse. My fingers got to itching to get hold of the key, and pretty soon, I just drifted over and opened it to say something to the fellow at the other end. But I couldn't, because he wouldn't close his key. That was sure a funny business. When I closed my key he went right ahead, not where he left off, but somewhere lower down the page, so to speak. I tried it again and the same thing happened. Of course, by that time, I knew there wasn't an operator on the other end —just some kind of machine. I was about to try it again when out rushed this fellow Himmer shouting, "Oh, Mr. James, you must not do that. You will please not interfere with the telegraph instruments; a most important matter is being received."

"You mean it was important back in 1921," Froglegs burst in.

Himmer showed no sign that he'd heard him; just sort of oozed me back to my chair. By that time, Crenshaw and Viernst had come out to see what all the smoke and cinders was about.

Just then, Froglegs got up and yelled out, "Oh, Mr. Peterson," and rushed over to Himmer with his hand out. "I must beg your pardon, Mr. Peterson for not recognizing you before; I remember you so well back in Paterson; saw your picture in the papers right after you left in 1910."

Himmer looked as if a block signal had fallen right in front of him. He started to get mad; then changing his mind, became oily, and said there was obviously some mistake, ha, ha. Then he did get mad and asked old Crenshaw who this rude person was, and all that.

But Froglegs held on, and just as calm as could be, said, "No, Mr. Peterson, I could not forget you. Not even the mole on your right check. You know, that was mentioned in the $500 reward notice the sheriff sent out."

If lightning had struck a line you couldn't have seen more sparks jumping around. But we were looking for some kind of play, and when Viernst eased up to a table and took out a revolver, Froglegs grabbed for it. I was standing to one side, and a little behind this fellow Viernst. And you know what I did? I let him have the *Official Guide* right aside the head. I tell you, boys, always have an *Official Guide* in the office; there ain't nothing quite so handy. It didn't hurt him much, but it knocked him off his whiskers. Yes sir, knocked them askew so they looked like a derailed boxcar. Next, I let him have the *Equipment Register* right in the beezer, and he dropped the gun. When we looked around, we saw old Crenshaw had Himmer just about cornered.

Suddenly both those birds made a break for the door and Crenshaw yelled, "Block the door!" But there was another door behind a bookcase; before we knew it, they had flown the coop into the hall.

WE ALL HIGHBALLED for the main door, and got out just in time to see those birds start downstairs. Then, about five men appeared from out of the blue, all carrying guns. Lord Chesterfield and Prince Albert and these other fellows met just about halfway downstairs, and began grappling with each other until they all slipped and rolled down a flight, like a shute full of coal into a tender. Of all the arms and legs and heads mixed up together, I never saw anything like it!

Then, one man got up, brushed the dust from his clothes; then another; until finally, they lifted up Lord Chesterfield and Prince Albert who were wearing the prettiest pairs of bracelets you ever saw.

Froglegs nipped over there as soon as the dust cleared; but Crenshaw and me kept our grandstand places at the head of

the stairs. Then he turned to me and said, "Well, Mr. James, shall we descend?" We did, and old Crenshaw walked down as calmly as if the whole show had been put on for his benefit, and he was the general superintendent.

Well, it was, and he was. He walked up to those birds, threw back his coat and thrust a gold badge under their eyes. It said, "United States Post Office Department, Postal Inspector." That was all I could see, but Froglegs had to stick his nose right up to it and say, "This says, 'John Budlong'; then your name ain't Crenshaw. My gosh, does everybody in this burg go under an assumed name?"

Crenshaw—I mean B u d l o n g—just laughed and said, "Well, not everybody, just railroad consolidators, postal inspectors and movie stars."

Well sir, for the next six months Froglegs and me didn't do much but attend grand jury hearings and trials. But it was quite an experience and we got to be pretty good lawyers. I never saw so much switching around to make up one trainload of issues. The D. A. finally got everything ready for the trial, but he never would have gotten over the hump if Froglegs and me hadn't been there with our booster engine. We put her over with plenty of steam to spare.

You see, old Budlong had some goods on those birds, but he didn't have enough to make a carload. Lord Chesterfield and Prince Albert were just getting started when we had pulled the emergency brake on them. They hadn't really done anything, so the whole case was based on conspiracy, which may be as bad, but harder to prove. Froglegs and me had flagged the phony telegraph outfit long before Budlong noticed it.

By the way, we took that thing apart to see what made it tick. It turned out that Viernst, who was a kind of mechanical wizard, had invented a typewriter that could punch holes in a tape—Morse Code. When that tape was run through another machine, it sent Morse, and to perfection, of course. Froglegs was right—it was a mechanical arm sending the Morse.

THE UPSHOT of the story was that their Highnesses were pretending to represent an international syndicate, backed by the United States Government, to consoliate all the railroads of the country. Of course, it had to be kept secret, and any investor they let in on the ground floor was cautioned to keep it quiet.

The judge finally agreed to give those two birds free board and room at McNeils Island for twenty years apiece. The D. A. was so tickled he said he would see that Froglegs and me got on in the world. So he fixed it up with the super of the SP, a friend of his, and Froglegs and me walked out of the Court House into the SP office, and hung up our hats. Froglegs was made assistant to the assistant secretary of the assistant superintendent, and I helped Froglegs. That gave us a golden opportunity to equip the whole SP system with Jump Frogless Switches.

"When do we start?" I said one day.

"Start what?" He pretended not to know what I was talking about.

"You old faker! Start converting the SP to new style switches, of course."

"Not going to start," he answered.

"Why?"

Then he just sat down discouraged, and looked at me. "I ain't so much interested in frogless switches, as I am in the statute of limitations."

"What's that?" I asked.

"Well, the statute of limitations didn't come up in the Himmer and Viernst case, but it means that if you do anything like using the mails to defraud, or conspiring to break the law, they have to prosecute you within a certain time, or the freight house is closed and no soap. In the Federal Courts, it's three years. When did we sell the last frogless switch stock?"

"Going on two years, now," I replied.

"That's just it," he said. "I'll feel better when it's three years."

I got him.

Soon the three years were up. But you know what that Froglegs did? He went and got married. But that's the way with geniuses, you never can tell what they're going to do next.

NOT ON THE WHEEL REPORT — Joe Easley

"Looks like we have an item for 'The Iron Pike' here!"

The LITTLE PIKE

If You Want This You'll Have To Build It—You Can't Buy It

AS SPINDLY and fragile-looking as timber trestles appear in this age of steel, there are still literally thousands in active service on railroads throughout the country. You will find most of them hidden in the huge mountain chains of the Rockies and Sierras, spanning small ravines and deep gorges, for in this part of the country timber has always been plentiful and the sunny, dry climate is easy on wood. Although quite a few trestles (many built half a century ago) still stand, a great number of them have long since disappeared under immense earth fills. In fact, it was common practice for a railroad to erect a trestle in order to get trackage laid quickly, then later bury it under a permanent earth fill when time and money were more plentiful.

Although curved trestles are a fairly common sight on western prototypes, few are found on model railroads. In the first place, no kits are available on the market; and second, very little has been published about them. But there's probably nothing more thrilling than to see a heavily laden freight fighting its way around the sweeping curve of a timber trestle. Their construction is not only somewhat different from that of a straight trestle, but they're also a little more difficult to build. However, if you will follow these construction methods, *step by step,* you should have no trouble. Just remember that "curved" timbers are out in curved trestles (although the author has seen several recently on a few layouts). All prototypes were built with *straight* timbers. The only parts that curved were the steel rails themselves.

Most trestles have a monotonous similarity because the majority of them have been built from A.R.E.A. standards adopted not too many years ago. But if you go back to the golden days of the West you'll find many colorful, unusual types that will lend an air of distinction to any layout. This trestle, for instance, was installed on the Rio Grande Southern on the tough grade near the summit of Dallas Divide, just east of Brown, Colorado.

Your first step in building a trestle is to determine the radius of the curve which, in this instance, was 3 feet, 10 inches. It was part of a large loop, surmounting a fill about 55 feet high and crossing a dry river bed. The earth fill slopes down to the bed of the river on each side. You can vary the length of your trestle by simply adding or subtracting the number of bents (Fig. C) and also the height, by varying the bent heights (keeping to 13-foot sections).

After you have determined your radius, draw this as your center line on a sheet of heavy paper, then draw the rail centers (Fig. A). Next, draw the center lines of each bent, on 16-foot centers, so that they radiate from the center of your radius. Use a long, straight piece of wood for this and fasten trammel points to the ends. One trammel point is a point, the other holds the pencil. Thus, you have a compass as large as you want.

Now draw an elevation of your highest bent (Fig. C), to scale. Next, you can draw an elevation of your trestle (Fig. B)

TRESTLE on a CURVE

PAUL N. WHITE

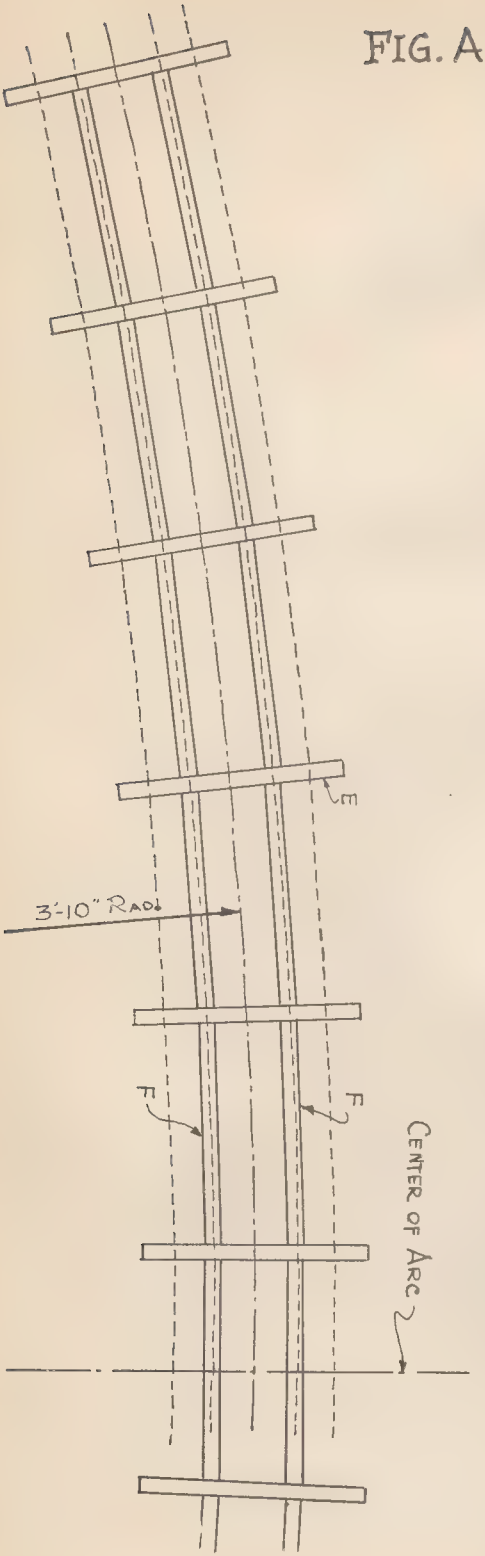


FIG. A

so as to determine your bent heights from grade. By the way, Fig. B is not drawn with the trestle curved but as if the trestle were pulled out straight, for clarity. You can do the same because you don't take any dimensions from this drawing.

FOR the actual construction I recommend good, clear white pine strips instead of balsa, which is too fragile and too hard to sand smooth. Place a sheet of clear wax paper, the kind found in your kitchen, over Fig. A and tack firmly to your drawing board or workbench. You will be using your drawings for templates and the wax paper will prevent your work from sticking to the surface when using cement. Using Fig. A as a template, then, glue members "F" end to end and place weights to hold them in place. While these are drying, start building the bents by placing a sheet of wax paper over Fig. C and place upright timbers "B" into position. Next, cement crossbeams "G" into place; then cross pieces "C". Finally cap beams "E".

Your next steps are very important and require a lot of patience. In fact, the success of your trestle depends on what you do from here on in. Working from the center of the arc (Fig. A), invert one of the tallest beams, spot some cement on members "F" and set the cap beam (with bent) into place. Place small weights (I used Flopaque bottles set on their sides) at each side of the bent, holding it vertically until it dries. Continue this procedure until all bents are cemented, upside down, into position. After the cement has set hard, turn the trestle upside down. Be very careful in doing this. Now measure and cut a quantity of stretcher beams "A," and after making sure each bent is plumb, cement into position (remember, each piece runs only from bent to bent). After both sides are completed, cement strips "D" in place on the various levels. These, too, run only from bent to bent. Now your trestle is structurally complete—and you'll be amazed at its strength.

DETERMINE radius, left, then draw rail centers

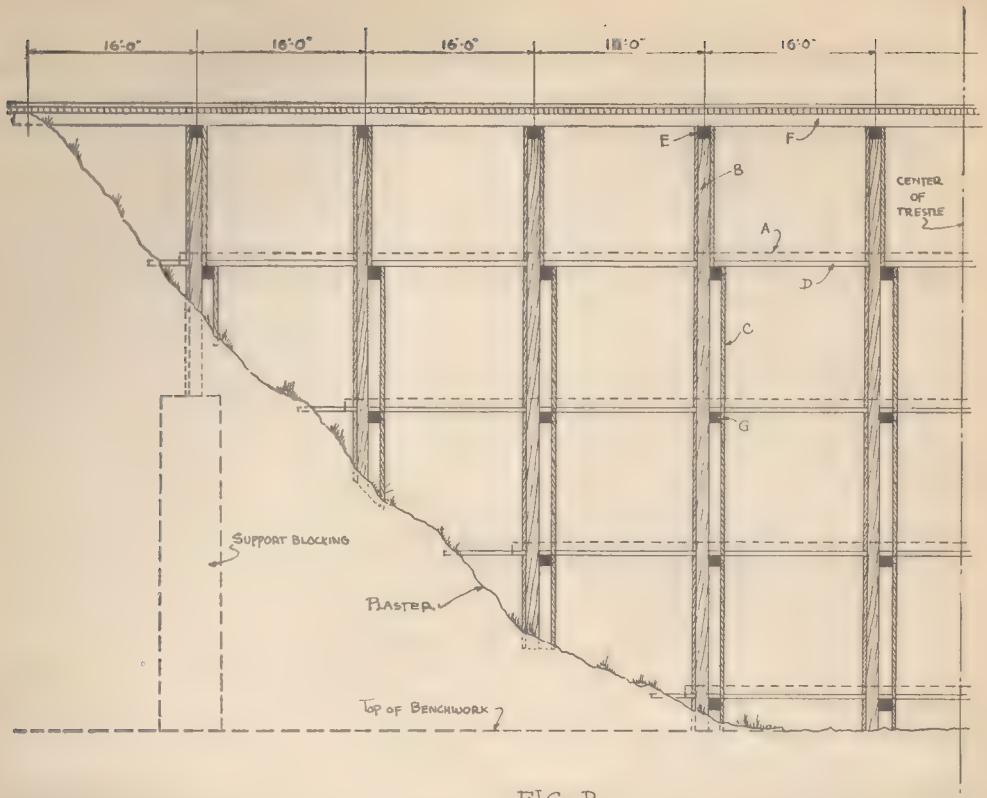
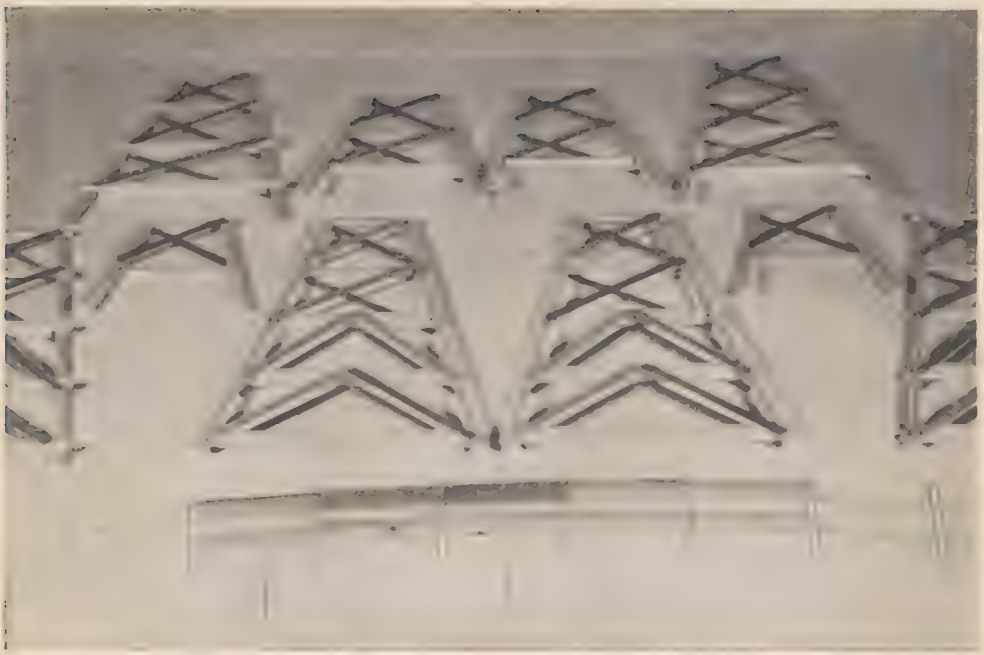


FIG. B

TRESTLE ELEVATION is for purpose of determining bent heights from grade, above. Photo below shows how completed span looks

You can get HO wood ties, already cut and stained, at your hobby store. Also a few lengths of HO rail. But before cementing the ties into place you will want to "bank" the curve by cementing 1/6 x 3/16-inch strips on the outside of the curve



on the "F" members (Fig. D). Next cement ties into place and carefully spike rails into position by pushing the spikes in with long-nose pliers. You will, of course, need a track gage here.

PAINTING: Don't paint your trestle

PROPER WAY to build trestle is upside down, above. Picture top of page shows completed bents, with curved track support below

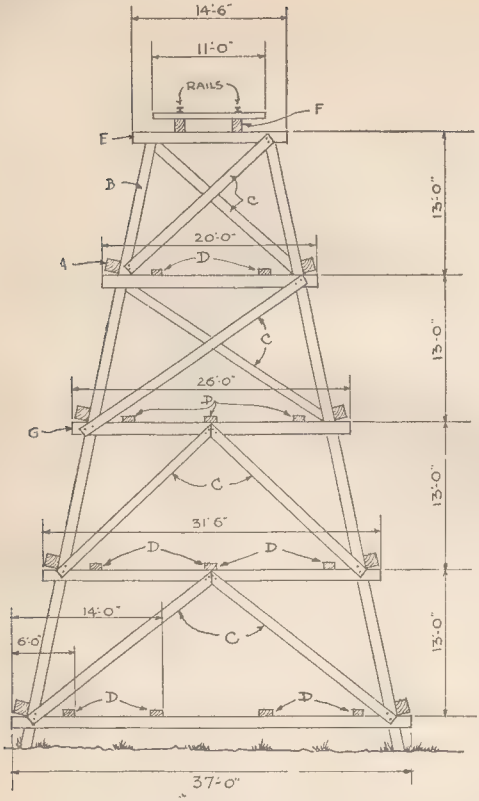


FIG. C

ELEVATION of highest bent is shown in drawing above

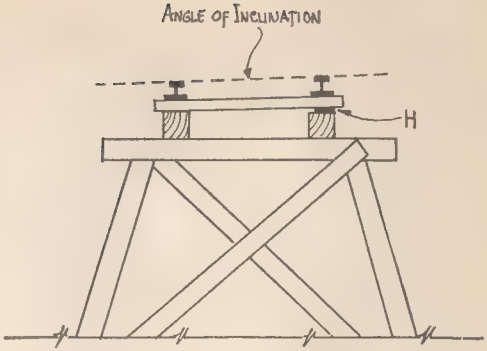


FIG. D

DON'T try to figure out the scale on this one —there isn't any. It's just to show how trestle is "banked"

with flat black paint, unless you want it to appear "brand new". For a weathered-creosote finish take a small bottle, fill it half full of turpentine, and add flat black until you get a fairly strong diluted mixture. Test as you mix on scraps of wood until you arrive at the desired effect. Then as you paint, or spray, the turps will be absorbed into the wood, leaving fine particles on the surface which will give it an authentic silvery-grey, age-old, weathered look.

Overend, England

IF YOU build railroads, and your neighbor builds model ships—well! Layout above is British type

Locomotives of the NICKEL PLATE

Steam

Class	Numbers	Cylinders	Drivers	Pressure	Engine Weight	Tractive Effort	Builder & Date
			0-6-0 (Switcher) Type				
B-5	351–386	21 x 28	51	200	168,000	41,200	W&LE, Alco, 1929-44
B-11B	390–393	21 x 28	51	180	173,000	33,150	Lima, 1917
B-11C	397	21 x 28	57	180	173,000	33,150	Lima, 1918
			0-8-0 (Switcher) Type				
C-1	271–274	25 x 28	51	175	214,000	51,200	W&LE, 1918
C-1A	276–295	25 x 28	51	180	219,200	52,500	W&LE, 1928-30
C-17	300–304	25 x 28	51	200	239,000	58,350	Lima, 1934
U-2	200–204	23½ x 30	57	185	216,500	45,700	Lima, 1918
U-3A	205, 206	25 x 28	51	185	214,000	53,950	Lima, 1920
U-3B	214	25 x 28	51	185	216,500	53,950	Lima, 1914
U-3C	220–229	25 x 28	51	185	221,000	53,950	Lima, 1925
			2-8-0 (Consolidation) Type				
G-2	921–927	22½ x 30	57	200	216,800	45,300	Alco, 1905
G-7	891–894	22 x 28	57	185	196,700	37,500	Baldwin, 1913
G-8	901–905	22 x 28	57	185	209,150	37,500	Lima, 1916
G-9	906–912, 914–916	22 x 28	57	185	209,150	37,500	Lima, 1921-22
G-10A	860, 861, 863, 871	22 x 28	57	185	197,000	37,500	Brooks, 1905
G-44	930–932	21 x 30	57	185	206,000	36,600	Alco, 1904
			2-8-2 (Mikado) Type				
H-5A	500, 504, 508	24 x 32	63	200	291,750	49,750	Lima, 1917
H-5B	515, 526, 531	25 x 32	63	185	291,750	49,900	Lima, 1917
H-5B	510, 532	24 x 32	63	200	291,750	49,750	Lima, 1917
H-6A	602	26 x 30	63	200	307,420	54,700	Alco, 1918
H-6B	611–615	26 x 30	63	200	320,000	64,100	Lima, 1920
H-6D	617, 618, 621, 623, 631	26 x 30	63	200	316,800	54,700	Lima, 1922
H-6E	639, 640, 654, 655	26 x 30	63	200	319,400	64,100	Lima, 1923
H-6F	662	26 x 30	63	200	318,900	64,100	Lima, 1924
H-6-O	587, 599	26 x 30	63	200	300,930	54,700	Baldwin, 1918
M-1	571–690†	27 x 32	63	200	321,600	62,900	Alco, 1918

†*Formerly W&LE engines Nos. 6001-6020*

			2-8-4 (Berkshire) Type				
S	700–714	25 x 34	69	245	428,900	64,100	Alco, 1934
S-1	715–739	25 x 34	69	245	429,500	64,100	Lima, 1942–43
S-2	740–769	25 x 34	69	245	440,800	64,100	Lima, 1944
S-3	770 779	25 x 34	69	245	444,290	64,100	Lima, 1949
S-4	801, 803, 805 807	25 x 34	..	250	413,100	65,400	Alco, 1937
S-4	804, 806, 808 832	25 x 34	..	245	415,000	64,100	Alco, 1937-42
			2-6-6-2 (Articulated) Type				
I-3	940–943*	23 & 35 x 32	57	225	452,000	79,400	Baldwin, 1919

**Formerly W&LE engines, Nos. 8001-8003, 8009*

			4-6-2 (Pacific) Type				
K-1A	160, 162	22½ x 26	74	200	265,100	30,200	Lima, 1922
K-1B	165, 169	22½ x 26	74	200	255,320	30,200	Alco, 1923
			4-6-4 (Hudson) Type				
L-1A	170–173	25 x 26	74	225	318,400	42,000	Alco, 1927
L-1B	174–177	25 x 26	74	215	315,900	40,150	Lima, 1929
			4-8-2 (Mountain) Type				
J-1	844, 846	28 x 30		225	399,200	68,900	N&W, 1926

Richard J. Cook, Cleveland

MOST NKP STEAMERS were built by Lima, including four Class L-1B Hudsons. Alco turned out equal number of L-1A 4-6-4s

Diesel-Electric

Class	Numbers	Cylinders	Horsepower	Engine Weight	Tractive Effort	Builder & Date
AS-6A	85	12½ x 13	660	198,300	49,600	Alco, 1950
AS-10A	1-6	12½ x 13	1000	230,000	69,000	Alco, 1942
AS-10B	25-43	12½ x 13	1000	230,000	69,000	Alco, 1947
AS-10C	46-58	12½ x 13	1000	230,400	57,600	Alco, 1951
AS-10D	65-73	12½ x 13	1000	230,000	57,500	Alco, 1952
ASM-10A	44, 45	12½ x 13	1000	231,200	57,800	Alco, 1950
ASM-10B	59, 60	12½ x 13	1000	231,200	57,800	Alco, 1951
ASM-10C	61	12½ x 13	1000	230,800	57,700	Alco, 1952
ES-6A	105, 106	8½ x 10	600	197,000	49,300	EMD, 1951
ES-8A	107-114	8½ x 10	800	230,500	57,600	EMD, 1952
ES-10A	95-98	8½ x 10	1000	248,540	62,100	EMD, 1940-41
ES-10B	7-10	8½ x 10	1000	247,640	61,900	EMD, 1942
ES-10C	11 22	8½ x 10	1000	247,640	61,900	EMD, 1947
ES-12A	230 232	8½ x 10	1200	246,800	61,700	EMD, 1950
ES-12B	233-237	8½ x 10	1200	246,800	61,700	EMD, 1951
ES-12C	238 244	8½ x 10	1200	246,800	61,700	EMD, 1952
BS-10A	100, 101	12¾ x 15½	1000	243,800	73,100	Baldwin, 1947
FS-10A	125-133	8½ x 10	1000	246,940	61,700	Fairbanks-Morse, 1949
FS-12A	134-138	8½ x 10	1200	248,000	73,800	Fairbanks-Morse, 1953
GS-4A	90	5¾ x 8	380	88,000	22,000	GE, 1949
LS-10A	305-308	9 x 12	1000	238,260	59,600	Lima, 1949
LS-12A	309-312	9 x 12	1200	248,000	62,000	Lima, 1950
ERS-15A	400 412	8½ x 10	1500	236,400	59,100	EMD, 1951
ERS-15B	413-422	8½ x 10	1500	236,400	59,100	EMD, 1953
AP-20A	180-190	9 x 10½	2000	308,400	51,400	Alco, 1947-48

Information supplied by Director of Public Relations Harold C. McKinley.

C. E. Helms, St. Marys, O.

BERKSHIRE FLEET handles practically all NYC&StL freight tonnage. No. 700 was outshopped by Alco, some other 2-8-4's by Lima. Shield in front of smoke box served as protection for men making cylinder readings

Helms

CONSOLIDATIONS in G-9 Class were turned out in two-year span, Nos. 906 through 911 in 1921, rest in '22. Tender accommodates 15 tons of coal, 9600 gallons of water

C. W. Jernstrom

MIKADOS in H-6D Class have 54,700-pound tractive effort without boosters (Nos. 617, 621, 623) and 64,100 with boosters (618, 631)

NOT ON THE WHEEL REPORT Joe Easley

"I know the direction—just say when!"

On the Spot

Our Readers

Talk It Over

With the Editorial Crew

WRITE your own timetable! That is what the Long Island, world's largest commuter railroad, has been encouraging its passengers to do. The road gave each commuter a questionnaire on which to write his preferences for train-time, and then used the data as the basis for new timetables. If any other road has tried this method of pleasing the public, we'd like to hear about it.

H. L. Kelso, Los Angeles, Calif.

PHOTO HOGS in "hog city of the world." Three New York Central name trains, The Pacemaker, flanked by the Commodore Vanderbilt, left, and the Michigan, right, monopolize scene at Chicago's La Salle Street Station

A SLEDGE HAMMER was standard equipment on railroad trains of the 1830s, when rails were merely strap-iron laid on top of wooden stringers. Now and then a rail would suddenly break in two and the rail-ends, known as "snake-heads," would stick up through the floor of a car, much to the consternation of passengers. The sledge hammer was used to pound them down.

DEPOTS have always fascinated Louis K. Penningroth, so he is building a full-size country station telegraph office in the basement of his home in Larimore, St. Louis County 15, Mo. "For several years now," he writes, "railroads and friends all over the country have been sending me equipment for this project—everything from telegraph keys to oldtime glass ink-wells and ancient coal-oil desk lamps."

FIDDLETOWN & COPPEROPOLIS RY.

No. 60 Premature Pyrotechnics as Sparks from F. & C.'s No. 1 Ignite Fireworks on Picnic Train

by Carl Fallberg

NOW we've heard everything. Many a stretch of railroad has been put out of business by a motor highway; in this case a *scale model* railroad with 3800 feet of track and 12 stations is about to be dispossessed because it is in the pathway of an automobile road, the New England thruway.

Since 1936, the Westchester Model Club, Inc. has housed its layout in the old abandoned railroad station at Pelham manor, N. Y. Plans of the highway builders call for razing this station before the year's end. The 45 club members are frantically seeking a new location for their model railroad. They say that even if a place were found immediately, it would take them at least a year of painstaking effort to pack up their "Eastern Railroad" and reassemble it in another building.

* * *

1¼ MILLION is approximately the number of railroaders now employed on America's Class 1 roads, according to ICC figures, while some half-million other persons are receiving monthly payments under the Railroad Retirement Act. The latter number includes survivors in railroad families as well as retired railroaders.

* * *

ILLINOIS CENTRAL is now moving flour in carload bulk lots directly from mill to bakery. This new method eliminates packaging, weighing and handling of individual 100-pound bags. It stems from experiments conducted jointly by the IC and Omar, Inc., the latter being advertised as the world's largest home-service bakery. Flour is poured into converted hopper cars, which are wax-lined to keep the flour from sticking. These cars are then sealed against dirt and dust.

The IC, a bulk-shipments pioneer, was the first road to use covered hopper cars to carry bulk cement in 1938. Among the many other commodities handled by railroads in bulk are calcium carbide, chemicals, bauxite ore, sugar and soy beans.

CANADIAN NATIONAL is celebrating the 100th anniversary of Ontario's first railway, the Ontario, Simcoe & Huron, now in the CNR system, by operating a museum train over the old route, reports W. Emery, 226 North Brodie Street, Fort William, Ont., Canada.

This train will be stationed at Quebec in July, and at Toronto from August 28 to September 12. It will leave Toronto over the original line of the Great Western (now CNR). Three old locomotives and six cars, under the supervision of retired railwaymen wearing century-old uniforms, will contain hundreds of railway exhibits: tickets, rail sections, Bible racks, photos, etc. The oldest locomotive still operating on the CNR, Mogul No. 674, built in 1899, will head the museum on wheels. The other two locos are a saddle-tank switcher of 1894 and wood-burner No. 40, built in '72, the Great Western's first standard-gage engine.

* * *

JUMBO, a 2½-ton elephant was so restive after a recent trip from York to Liverpool, Eng., he escaped from his car and roamed about Lime Street station for an hour. When the London express pulled in, its passengers became panicky upon spying this massive, although gentle, pachyderm. Jumbo demonstrated he was a railfan at heart by trying to remove a marker light from the express train as a souvenir. A taxi driver prevented the vandalism by luring Jumbo back into his car with a bag of buns snatched from the station lunch counter. That night the elephant performed in a local theater.

* * *

800 PERSONS will die this year in railroad-crossing accidents because of their inability to see moving trains at night, estimates Representative H. R. Cross, an Iowa Republican. He is sponsoring a bill to compel railroads to mark unlighted freight and passenger cars with materials designed to reflect auto headlights.

National Archives

CONTROVERSIAL. Many theories have been propounded with regard to this 1863 Hanover Jct. photo, with particular attention given to top-hatted figure to right of engine. The hypothesis he is Lincoln enroute to Gettysburg has been partially confirmed

LINCOLN MYSTERY. Thomas Norrell, Box 311, Silver Spring, Md., sheds some light on that item about the old Lincoln photo (March issue, page 138):

"The original negative is kept in the National Archives, not the Library of Congress. The photo which started the controversy is from National Archives' negative. Additional negatives of the same scene are in the Library of Congress. I discovered these latter negatives, all made by Brady, at Springfield, Mass. in the 1930s, and reported my find to the Government. The Library of Congress subsequently acquired the collection which number to the thousands.

"This photo you mention in the March issue shows the Hanover Branch Railroad station at Hanover Junction, Pa., not the Western Maryland station. In those days Western Maryland was nowhere near the place, but acquired the HB long afterward.

"For many years the original photo was captioned "Hanover Junction, Va. I discovered some years ago while investigating the history of the Louisa Railroad (now Chesapeake & Ohio) that it could not have been taken at Hanover Junction, Va. After visiting that place and the site of the former Hanover Junction, Pa. station, I decided that the picture must have been made there. This I called to the attention of National Archives, whose Miss Josephine Cobb confirmed it.

"Miss Cobb speculated that the reason for the photo was Lincoln's journey to Gettysburg to make his famous address, and she noted a photo which possibly included the Civil War President in the scene. Publication of this theory in the press led to widespread controversy as to whether or not the picture showed

Lincoln—*Time* and *Newsweek* carrying items about it.

"Photos were taken by both an official of the Smithsonian Institution and me in November at approximately the same time of day and year when Lincoln was supposed to have been there (November, 1863 as confirmed by contemporary news items). In comparing the shadow angle and other details of the 1863 to the 1952 photo, the contention that Lincoln was pictured in the early photo was supported. The 1952 photos of mine are now on exhibition in National Archives at Washington."

Mr. Norrell, who is an outstanding photographer of railroadiana, tells us that he has been reading this magazine since 1911, five years after the first issue appeared.

* * *

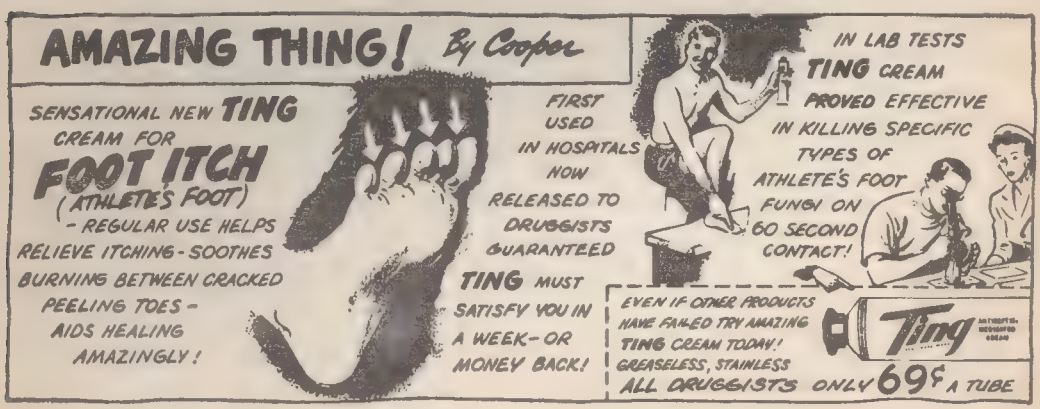
FBI FILES describe the case of Joe and Frank, aged 10 and 11, who rigged up two steel fence posts, a board and a roll of wire, on a railroad track in such a way that they wrecked a train, killing four persons, injuring 30 and causing $100,000 damage. Looking into the lads' background, the FBI learned that Frank's father was a drunkard who treated him cruelly, and that Joe's parents worked away from home, leaving him in the charge of an elderly grandmother, described as a religious fanatic, who constantly nagged him. It is not surprising that such homes produce train-wreckers.

Juvenile delinquency is worrying railroad men. In an effort to combat it, the B&O is exhibiting a new color-sound cartoon movie, "Close Call for Jimmy," to thousands of school children in the 13 states through which it runs. This film shows Jimmy's attempt to stop some hoodlums from tampering with a switch. It is a sequel to "The Happy Locomotive," viewed by more than a million and a quarter pupils, which is thought to have brought about a marked reduction in juvenile trespassing on the B&O.

In the Bronx section of New York City, young vandals have been throwing rocks through the windows of passing trains. Paul Jenisch, of 363 Edgemont Avenue, the Bronx, has asked the New Haven to install shatterproof glass on that route.

"Until this is done," he urged the board of directors, "conductors should at least instruct passengers to keep their window shades lowered for protection while passing over the hazardous mile of track north of 138th Street. When a rock comes flying through a window, the conductors just continue collecting tickets—vandalism is that routine. I have seen three persons hurt by flying glass, one of them seriously. Yesterday I was on a train that was stoned by several juvenile criminals."

"Juvenile delinquency," editorializes the *Brotherhood of Maintenance of Way Employes Journal,* "besides being the most talked-about, written-about subject of our generation, might be recorded as one of the great tragedies of our century."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John C. Illman, Albany 6, Calif.

STEAMED UP and ready to pull out of CPR station at Sicamous, B. C., Royal Hudson No. 2864 and Pacific No. 2382 pant impatiently as mail bags are tossed aboard. Station is housed in one of lesser-known Canadian Pacific hostelries, Hotel Sicamous, on shores of Shuswap Lake

ANSWERING our call for information on court seals depicting a railroad, Major Bird, Adrian, Mich., sent us an imprint of the seal of Lenawee County, Mich., Circuit Court which shows a train on a viaduct. He reminds us that Adrian was the western terminus of the Erie & Kalamazoo, the first railroad in the old Northwest Territory. Says he: "Part of the E&K was leased in 1846 to the Michigan Southern (now New York Central), this being, I am told, the second oldest railroad right-of-way lease in the country."

* * *

2521 STEAMED OUT of the Great Northern's Interbay Yard at Seattle, Wash., the other day, leaving the entire Cascade Division without steam power, laments Robert A. Barr, *Seattle Times* reporter. This Mountain-type Baldwin bowed to dieselization. In an open letter to Charles W. Moore, GN executive assistant, Mr. Barr writes:

"Maybe some day we can reconcile ourselves to watching the diesels go by. But we shall never reconcile ourselves to the ignominious departure of No. 2521. It was bad enough to find that this former pride of the passenger service had been put into yard service. A yard engine. A common yard goat!

"Mr. Moore, do you know what No. 2521 was pulling when she left? Not a passenger train, nor even a broken-down section car. Not even a caboose. She was pulling a weed-burner! Of all things, a weed-burner!"

The GN publicity boys fell down badly. They should have sent the gallant old 2521 out of Interbay Yard in a blaze of glory. She deserved it.

* * *

"OLD locomotives may die but they don't just fade away," remarks Alvin A. Fickewirth, 200 Lexington Avenue, El Monte, Calif. "Another little kettle has come home to rest: an historic Southern Pacific engine which helped close a gap in the Colorado River in 1906 has been installed with honor on 150-foot trackage at Imperial, Calif., as part of the Pioneers Association exhibit."

Other engines on display are:

Honesdale, Pa.: *Stourbridge Lion,* D&H Canal Company, first locomotive to haul a train in America.

Base Station, N.H.: *Old Peppersas,* Mount Washington Cog Railway.

Fairbanks, Alaska: No. 11, Alaska Railroad.

* * *

ROMANCE DEPARTMENT. Back in 1942, Robert H. Brown, then treasurer of the Pittsburgh Chapter, National Railway Historical Society, led Miss Mary Mikeska to the altar, his railfanette companion of trolley excursions for about a year. The newlyweds dropped into our office on their honeymoon trip.

Unique in history, as far as we know, was the chartering of a special trolley car by Frank P. Donovan, Jr., an occasional contributor to this magazine, to take his bride, Miss Janice Goerner, their friends and relatives to a Minneapolis church in which Frank and Janice were married in 1944. They're living at 3513 Hennepin Avenue, Minneapolis 8, Minn.

We know of at least two locomotive firemen whose jobs led to romance: Harry C. Hippel, fireman on the Rock Island's *Zephyr-Rockette,* married his train hostess, Miss Marion Wheeler, at Teague, Texas. James E. Sledge, a Texas & Pacific fireman, was buried under tons of coal in a derailment at Natchitoches, La., near the Louisiana State Normal School. His life was saved by a pretty co-ed, Miss Dee Davison, who worked frantically to dig him out. Shortly afterward, romance blossomed and they became man and wife.

Who can add to our list?

* * *

ALASKAN railroader George Gale, 204 North Turner, Fairbanks, pounds the key on his telegraph job and pounds the typewriter in his leisure hours. Dubbed "Cyclone" because of his breezy personality, he writes story after story

Fred Harvey, Chicago, Ill.

SOMETHING OLD, something new. Pioneering locomotives form decorative theme of modernistic "Iron Horse," Fred Harvey's cocktail room in Chicago Union Station. Spotlighted paper sculptures on wall were modeled after famous 19th century engines: (left to right) The Pioneer, Best Friend of Charleston and Stourbridge Lion

about adventure in the Northland. Whether he prefers his railroading to his literary life is hard to say. He corresponds with people in a dozen countries, Fran Mally and Herb Rhodes tell us, and contributes to radio programs. Fellow railroaders never tire of his tall tales.

Cyclone, who is 51, began his railroading on the Western Pacific at Elko, Nev., in 1923; worked in Canada and Mexico, and moved to Alaska in 1943. One result of his enthusiasm and interest in the Territory's affairs was the entering of Miss Maxine Cotherne as "Miss Alaska" in the 1950 Atlantic City beauty pageant.

* * *

SHE was only 17 when she landed her first railroad telegraph job, lying a bit, she says, to get her name, Clara Leonard, on the payroll. She is now Mrs. Clara Leonard Hinckley Marks, of 2826 West Fillmore, Phoenix, Ariz.

"I like to write stories about the graveyard shift in the lonely woods where I worked," she states. "I'll never forget the time Engineer Heater was killed on a runaway engine. Or the night 'Wild Bill' Harrison ran past my red light and I flagged the caboose, hoping the conductor or a brakeman would see my signal lantern. They did see it, and pulled the air. I am sure that some old railroaders still remember me."

* * *

CORRECTIONS in April issue. Several readers point out a misprint in the caption which says the locomotive pictured at the bottom of page 31 is a 4-6-4 instead of a 4-6-0.

"What the matter with Herb Mott's

cover painting, 'Quarry hog on the Monon'?" asks Alexander L. H. Darragh, 1314 Bedford Road, Grosse Pointe Park 20, Mich. "I thought the Monon was 100 percent dieselized. Besides, I've never before seen a boiler so high above the running gear and wheels, as if a crane were lifting the superstructure."

This one comes from an old *Railroad Magazine* contributor, F. W. Powers, Canadian National engineer, 17 McGowan Avenue, North Kamloops, B. C., Canada: "On page 58 you show two drawings of a pilot valve. One, with all ports open, is captioned 'in center position.' The other cut, with oil under pressure entering and outlet ports blanked, has a caption which contains the following wrong statement: 'Oil can enter one side of the vane motor and be ejected from opposite side.' With both ports in lap position that doesn't seem to make much sense to me.

"Also: in the Information Booth you list Canadian National's orders of diesel power. Unless I'm mistaken, this has since been added to. Although I have been in fast passenger service on the National since 1943 and am now pulling the *Continental Limited,* I have never ridden on a diesel nor even *seen* a CNR road diesel, although I have seen a couple of diesel-powered goats."

"Turning to page 123," writes Thomas Straus, 902 Main Street N.E., Minneapolis 13, Minn., "Reading diesel 259 is not an F-3 but an F-T 5400-hp. 4-unit freight locomotive. F-3 diesels are not rated 1350 per unit as you state but develop 1500 hp. per unit. They have three portholes instead of four as on the F-2 and F-T big Electro-Motive. The only difference between the F-2 and the F-T is that the lat-

MAMMOTH MALLET. Clinchfield's No. 651 pulls 93-car coal drag up steep grade out of Spruce Pine, N. C. Although road is fast being dieselized, Clinchfield's roundhouse still boasts 32 steam engines, 18 of which are 4-6-6-4s

Richard J. Cook, Cleveland, O.

ter have dynamic brakes and therefore have the box for grids on the roof as Reading's No. 259. Why not include pictures of the various types of diesel power on the Reading? It makes me boil to see so much steam power in your rosters."

The misprint in the lower caption on page 47 of our May issue—2577 instead of 5277—bothers Johnny Ellis, 15246 East Valley Boulevard, Puente, Calif. Says he: "This is the first mistake I ever saw in *Railroad Magazine.*"

A reader misinformed us. We said (May issue, page 146) that the Tampa Railfan Club had just published its first bulletin, *The Florida Railfan.* This mimeographed organ has been coming out since January, 1949, corrects C. C. Campbell, 207 So. Edison Ave., Tampa 6, Fla.

Other May corrections: Page 60, caption states Pennsy engine 4629 is a *Ten-wheeler;* She's really an I-1sa *Decapod.* (Robert Pringle, Deerfield Academy, Deerfield, Mass.)

Train 202, mentioned in caption on page 123, is on the Cotton Belt, not Louisiana & Arkansas. The Northern Pacific's *North Coast Limited* was described by William R. Draper on page 15 as "all Pullman"; timetables say it has coaches. (Rodger Darling, 1902 South 17th Avenue, Maywood, Ill.)

Our Soo Line locomotive roster failed to indicate that all power numbered 2000 and over belongs to the Wisconsin Central, having initials WC below the engine number on the cab's side panel. (R. L. Martin, resident midwestern vice president, Ry. & Locomotive Hist. Soc., 1509 28th Street, Rock Island, Ill.)

Also in the Soo roster: diesel engines 2224 and 2225 are EMD, not Alco. (Dick Krumenacher, 518 Beechwood Avenue, Waukesha, Wis.)

The miniature railroad operated at Creedmore Park, Fort Smith, Ark., mentioned in our January issue, is sponsored by the Kansas City Southern and the Louisiana & Arkansas. (Cecil H. Taylor, advertising manager of KCS and L&A).

EASTBOUND Santa Fe Chief No. 20 pauses in Arcadia, Calif., while head-end brakeman drops to tracks to throw switch near boarded-up Santa Anita station. No stops made here, except upon request of owners whose predecessor Lucky Baldwin, deeded land to SF on that condition

George N. Bisenius, Los Angeles 14, Calif.

On the Spot

"TRUCKERS no doubt will gloat over the recent explosion of ammunition in derailed boxcars at Lewis, Ind., which shelled the town for five hours at night but without killing anyone," writes C. R. Redfield, RD 1, Mystic, Conn. "That incident reminds me of the time I nearly had a carload of live warheads detonated right in my face. Live warheads are the loaded ends of torpedoes. If one hits a ship, it's good-bye ship.

"The ammunition depot where I've been a hogger on a switcher for over 25 years is mostly on a slight grade. All cars when spotted have to be choked. One rainy night the cargo of warheads got away. The car had been chocked, but the steady pressure on the wet chock finally snapped it out and the car started rolling, gaining speed as it traveled.

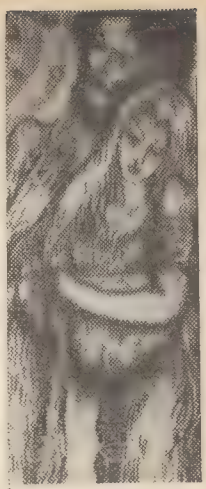
"I was in the clear with my engine on a nearby spur, and alone. The crew was 12 cars away, grabbing numbers on another track. The fireman had gone on a mission which the Navy personnel claims takes 45 minutes. I saw the runaway go by in the dark, and realized in horror it was a load of warheads. We had five outgoing cars on the lower end of the long siding which were to be picked up later that night by the southbound local. The car of explosives was heading toward them!

"It was up to me to do something. I had to let myself out of the spur track, get back to the engine, and take off after that car. If the knuckle was lined up, the hitch might take when I slammed into the car. If not, it would only boost the car that much faster into the string.

"Because of the darkness and rain, I didn't know how much room I had. However, I slammed into the car. If I hadn't made the hitch, I wouldn't be telling about it."

* * *

BLAUVELT, N. Y., on the New York Central's River Division, has a new railroad station, a remodeled version of the ramshackle Victorian depot that stood



the boy who grew up in a house full of manless women

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between Nietzsche and his sister Elisabeth

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Carl T. Smith, Photo Service

ALL ABOARD, as one-man crew Peter Lorie opens throttle on 18-inch gage F&L Smokey Joe Limited. Flanders & Lorie Railroad, named for men who dreamed up scheme, highballs 900-foot track on private two-acre tract of land at North Hampton, N. H. Fare is in proportion to its size—18¢ and 12¢ for children

there since 1887. The road modernized the station on condition that the community maintain it—keep it clean, insure it, provide a parking lot. Everyone was happy over it. Crowds of bustling men, women and children turned out to plant shrubbery and trees around it. Luncheon was served.

* * *

YEAR'S bill for removing snow and ice from America's railroad tracks to facilitate train operation came to a cool $31,440,000 in 1951. And for those interested in figures, visualize if you can, the total of 7,780 new freight cars delivered by manufacturers for use on railroads in the United States last February. This equipment, mostly box or hopper cars, would form a train 65 miles long.

"IF BILL KNAPKE had worked in the Rockies on the Great Northern where I did, I'm sure he'd prefer the electric lantern," writes Harry L. Britzius, 6135 Southwest Kelly Avenue, Portland 1, Ore., commenting on Knapke's article, "With Tongues of Fire," in our January issue.

"I recall times when oil-burning lantern globes would frost up, so that you couldn't see a thing. When the light flickered out it was darned hard to relight in a high wind or blizzard. We had plenty of cold wind, often 40 below zero. The coldest weather I ever experienced was about 60 below, near Judith Gap, Mont., in February, 1935.

"Our division was one of the first to use the electric lamp in train service. We furnished the lamp and the company sup-

plied batteries and bulbs. I am sure the accident rate on the GN's Butte Division dropped as a result of the electric lantern, particularly in freight service."

* * *

INFORMATION is wanted by H. F. Thomas, retired New Haven towerman, 194 Water Street, Stonington, Conn., on John Fitch's model of a steam locomotive built in the 1780s. We carried a picture of it some time ago. Mr. Thomas would like to include a more detailed description of it in a book he is writing.

* * *

BEING a police officer as well as a railfan, Al DuHadway of Ecorse, Mich., enjoys certain advantages. "Most railroad yards and roundhouses are fenced in and well guarded by railroad special agents," he writes, "but nothing is said when we pull into the garden in a prowl car. In fact, the railroad men are glad to see us around. Our presence tends to keep trespassers away. More than once we have carried injured employes to hospitals. Besides, on the long hours of the old graveyard shift, the men like someone to talk to.

"My dad was a boomer engineer, so I grew up to love the iron pike. Patrolling Detroit suburbs, we see plenty of railroading; and it 'just happens' that our car goes through the yards. There is always a copy of *Railroad Magazine* at the police station.

"Here in Ecorse we have the Detroit, Toledo & Ironton's south yards, the Detroit & Toledo Shore Line (owned jointly by the Nickel Plate and the Grand Trunk) and the New York Central, plus industrial lines of the Great Lakes Steel Corp. and the Nicholson Terminal & Dock.

"Although I am mostly a juice fan, having ridden the pumpkin-colored Milwaukee Road cars through the Bitter Roots and the Rockies during the war years as an Army MP, I had an empty feeling the other day when I saw three steam giants head for the cutting torch.

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A bright orange DT&I diesel rounded the bend into south yard pulling two husky 2-8-2s, Nos. 317 and 318, and a handsome Berkshire, the 704, battered up from a collision with a steel truck.

"With a bright red and yellow caboose on the rear, the three big boys, now silent and rusting, slowly crept through the 800 Class *Mikes* pictured in last October's *Railroad,* built in the '40s, the latest steam power placed in DT&I service."

* * *

NORRISTOWN, Pa., Borough Council has voted 8 to 4 to refuse permission to the Philadelphia & Western to

Edward C. Johnson, El Monte, Calif.

WHERE THERE'S SMOKE there's fans. Railway Club of Southern Calif. enjoy photo stop near Searles, Calif. on Memorial Day weekend, 1952. All motive power on Southern Pacific's Owens Valley Branch is still steam

yards with the air softly swishing out of their cylinders enroute to the Lauria Brothers' junkyard.

"The DT&I still has some steam power left and it still shows the influence of Henry Ford's ownership. Numbers are chrome—or nickel-plated and are raised for easier reading. Some years ago *Railroad Magazine* carried many pictures of this steam power under Ford ownership, showing its spic and span condition.

"About all the DT&I steam power left are a few big 8-wheeled switchers, some ex-Pennsy *Consolidations*—those with wailing whistles that have been around since 1929—three *Berkshires,* and the abandon its terminal at Main and Swede Streets and build a new station one block north, reports Luther P. Cummings. The P&W solicitor, Maxwell Strawbridge, had claimed the present building is too costly to maintain, besides being inconvenient for passengers who must climb the stairway to the second-floor waiting room.

* * *

HOW MANY oldtime trainmen recall the Miller Hook, an early coupler? It preceded the automatic type invented by Eli H. Janney. "I well remember the first Janneys and their predecessors, the

Miller Hooks," writes Edward H. DeGroot, Jr., 924 Colorado Bldg., Washington 5, D. C. "I made many couplings with the links and pins used to connect a Miller with the drawhead on a tender.

"We would take up the slack in those couplings with broken links hung on the coupling link between the hook and the drawhead. The hooks made these couplings difficult because of their contour, which sometimes caused them to slip.

"As a trainsmaster more than 50 years ago, I effected the change on the Burlington from Millers to Janneys. This was not difficult, although suburban equipment could not be changed rapidly enough to avoid the necessity for combination couplers. Miller-Janney couplings required wooden bridges from the end-sill of one car to the end-sill of the next one, fastened to the platform end-sill railings. Outbound trains could be taken care of all right, but the outer yard setups had to be broken up in order to spot the coaches for the steam plugs, and the pickups could not be arranged without combination couplings.

"The younger passengers insisted on walking back and forth through the train just to cross the bridges. Happily, we got through without mishap. I was much relieved when our trains were once more uniformly coupled."

* * *

UNION PACIFIC is experimenting with the use of propane gas as motive power in an effort to find out which fuel is most economical. For this test the road converted one of its gas-turbine-electric freight locomotives.

* * *

THE OLD SAYING, "railroaders stick together," is best exemplified when disaster strikes. For instance, the home of Stanley Marchanowicz, a Union Railroad shopman at Clairton, Pa., was burned to the ground. Marchanowicz bought the material for a new prefabricated house and fellow workers from the

Question: What can I do to get relief from the severe symptoms of bronchial asthma?

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ERIE'S Pacific Express No. 827 slows to allowed 55 mph. as she hits curve one-half mile west of Rathbone, N. Y. Passengers enjoy scenic view of Canisteo River on the 35 miles between Erwin and Hornell

car-shop gang donated many hours of time to help erect the house for himself and his family. A similar case occurred at Enid, Okla., after fire had gutted the home of the widow of Frisco roadmaster Charlie Byrd. More than 30 Frisco employes, bringing tools, repaired the house. "My husband made many friends in his lifetime," said the grateful widow, "and it's paying off now."

* * *

THE NATION'S vast railroad system, which at one time had expanded with America's growth, has been shrinking as the result of abandonments of trackage and short lines at the rate of 800 miles a year since 1916, the A.A.R reports.

* * *

38 MILES of new track will be built from the Santa Fe's main north-south line near Sanger to Addison, Texas, if the ICC approves, and the road will obtain trackage rights on the Cotton Belt between Addison and Dallas. This project would cut about 70 miles off the Santa Fe's Dallas-Chicago route.

* * *

WORLD'S busiest railroad junction is said to be Clapham Junction, on British Railways, where 2500 trains pass every 24 hours.

* * *

OPENING a coach door on a Rio Grande passenger train the other night to investigate an emergency stop, the 55-year-old conductor, Harry N. Ralston, stepped out and fell 1500 feet to death down a mountainside. The train had stopped on a trestle near Steamboat Springs, Colo.

* * *

SEGREGATION has finally been ended, after 70 years, by the Brotherhood of Railroad Trainmen with the admission of a Negro to membership for the first time

in its history. We'd like to hear more about this. Will some BRT man tell us?

* * *

HAVING no further use for the water tanks, pumphouse and pipelines that used to service steam locomotives at Williamsfield, Ill., the Santa Fe has presented this equipment to the village. The additional water supply, 214,000 gallons, greatly improves Williamsfield's fire-protection facilities.

* * *

THE C&NW placed a gasoline-propelled doodlebug on its Madison Division in 1898, recalls Charles J. Cunningham, of 237 Smith Lane, El Paso, Texas. By the way, Cunningham has been reading *Railroad* since brass-pounder Frank A. Munsey launched it in 1906.

"That car was built somewhat like the one shown by you on page 21 in January," he explains. "She had a horizontal engine and one-cylinder disc drive, but was so unreliable they discarded her after two weeks. The car was run out of Janesville, Wis. I worked on her as an express messenger. Sometimes she'd run a few miles, then stop; we'd have to get a steam engine to haul us back in."

* * *

CHALLENGING the accounts that have appeared in various publications of a fast run credited to the late John Draney, Lackawanna engineer, from Hoboken to Buffalo in 1901, a man who prefers not to have his name mentioned writes:

"That yarn has never been authenticated. I have spent hours and hours trying to authenticate it. Buffalo newspapers of the period do not mention it. I'd like to get proof of it, as it is a good story; but I'll bet you a highball you'll never get proof that will stand up."

Back in January, 1930, our leading feature article was "Right-Hand Side," by Edwin C. Hill, author of the book *The Iron Horse* and now one of WJZ's top

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radio newscasters. Mr. Hill had interviewed Mr. Draney for his article and the old engineer had read and approve it himself before we published it. He quoted the Lackawanna man as saying:

"In 1901 I was called upon to run the special train that was taking surgeons, nurses, and special medical supplies from Hoboken to Buffalo, after the crazy man, Czolgosz, had shot President McKinley. On board were Dr. Janeway and other leading doctors, who had been asked to make all possible speed to the home of John G. Milburn, in Buffalo, where the President lay with the assassin's bullet in his body. As far as I know, the time of that run of 395 miles has never been beaten. We used 405 minutes."

Unless our unnamed correspondent questions John Draney's veracity, he owes us a highball. We don't know whether or not Mr. X consulted New York City newspapers of 1901. Possibly he could find further confirmation—in the Public Library's newspaper branch on 23rd Street.

* * *

A NEW ZEALAND reader of *Railroad Magazine,* C. Allen, 21 Westwill Road, Belmont, Auckland N2, N. Z., tells us that the tall-stacked *Opossum,* one of the first three locomotives built in his country for the Foxton & Palmerston North wooden tramway, is still going strong. A. C. Bellamy, of the New Zealand & Locomotive Society, found her switching on Ogilvy's mill tramway at Westland.

The 1875 engine was considered unsafe even at the seven miles per hour passenger limit on the wooden rails, so it hauled freight. Passengers went by horse tram.

* * *

PAKISTAN HEARD FROM. A British sergeant stationed in southern Asia writes: "I have recently received two copies of *Railroad Magazine* and I must say that the contents are most interesting. When in England my off-duty hours are spent in poring over railway facts and figures. I wonder if any reader will send me old copies of *Railroad Magazine* or railway pictures or data. In return I will supply photos or information on British Railways. Am now stationed in Pakistan (formerly part of India) but hope to return home shortly. Please address 1387901 Sgt. McCafferty, J., 75 Bushey Mill Lane, Watford, Herts, Eng.

ARCADIA & BETSIE RIVER. Lonesome Ten-Wheeler operated over 21 miles between Arcadia and Copemish in Michigan before rails of the logging road were torn up long ago

SWITCH LIST

THOMAS O. ACREE, Box 724, Hollywood 28, Calif., will give detailed, off. info. on any RR wreck, for stamped env. Will answer all questions on tr. rules, esp. pertaining to tr. dispatching, tr. ords., etc.

ROBT. C. BAKER, Hardings, R. D. 2, Box 244, Brunswick, Maine, will buy good negs. steam locos any rd., pref. size 116 or p. c.

(*) IRVIN J. BAUMAN, 6008 Lemay, Detroit, Mich., wants photos all street cars ever appearing in Detroit, from the horsecar of 1887 to modern PCCs.

(R) E. P. BAUMGARDNER, 26 West End Ave., Oneonta, N. Y., will sell *Railroad Magazines* '35 to date; offers D&H emp. tts. No. 28, Apr. 27, '52 for 35c p.p. while supply lasts. Send your want list with 3c stamp for prices.

BRUCE BLACK, 1410 Gilbert Ave., Downers Grove, Ill., will sell size 616 negs. CB&Q, Milw., Wab., others. Wants to trade size 616 negs. for good CB&Q, CRI&P, Milw., CNW, other rds.

R. M. BROWN, 1826 Greenwood Dr., Ottumwa, Iowa, will sell telegraph learner *Instructograph* elec., with key and sounder; 10 new tapes, instruction book like new for 1st $30.

J. E. BUTLER, Box 89, Mahaffey, Pa., wants photos old Bellwood and Cresson Divs. PRR; also photos old Bells Gap and Penn. and Northwestern rds.; data on their engs.

(*) GEORGE J. CAPDEVEILLE, 2608 64th Ave., Oakland 5, Calif., has new listing on over 100 lines, elec., steam, size 616; list, sample 10c.

(*) E. H. CHARLTON, 746 So. Lake St., Los Angeles 5, Calif., wants old New Orleans trolley car photos, roster. Answers promptly.

(*) PAUL CLASS, 1915 N. E. 16th. Portland 12, Ore., will sell 27 types interurban blueprints, 8 rare photos of the Bull Run & Estacada interurban lines. Send 50c for 1 blueprint and list, or stamp for list.

C. COOK, Waukon, Iowa, wants builders' photos C&O, D&RGW, NP, GN, D&SL, SP cab-back, C of G (now 1C), Vgn.; any size; will pay good price. Wants Milw. steam, size 116 negs.

(*) LUTHER CUMMINGS, Jr., 129 Nevin St., Lancaster, Pa., will pay good price for 400 pg. illus. vol. (monthly issues), yr. unknown, of the old John George Brill & Co., Phila., Pa. dealing with horsecars, trolleys, etc. in U. S. Also wants photos Conestoga Trac. Co., Lancaster, Pa.; state your offer. Will sell *Model RR, RR Model Craftsman* '46 to '52, other types, p.p.; *Railroading From The Rear End*, perf. cond., $3.

(R) ARTHUR DARLING, 72 Bay St. S., Hamilton, Ont., Canada, will sell '50 to '52 *Railroad Magazines*, good cond. or trade for *Model Craftsman* '37 to '40, good cond.

ROBT. B. FINCH, Box 25, Brewster, N. Y., will sell *Ry. Progress, Popular Mechanics, Model Builder, Model Craftsman, Model Railroader;* send for list.

DAN FOLEY, 29 Linden St., Springfield, Mass., wants size 116 negs. steam locos New England rds.; also small locos any short, med. lines, n. g., Ind. etc. Offers size 116 photos or your needs. Answers all mail.

G. F. FRANKLIN, 443 N. W. 16th St., Camas, Wash., wants any photos, info., emp. tts., tts., other railroadiana pertaining to SPS Ry.; will pay top prices.

O. W. HALL, 305½ E. 9th St., Houston, Tex., wants photos, info. Boston & Maine; also Virginia & Truckee RR; write first.

(R) HARRY C. HARMAN, 25 E. 122, Brooklyn 27, N. Y., will sell *Railroad Magazine* '38 to '52 compl., perf. cond., to highest bidder, express collect.

(R) DON HOFSOMMER, Box 807, Spencer, Iowa, wants *Railroad Magazine* containing M&StL loco list, snow scenes; also M&StL negs., 8 mm movies, still shots, pass. trs., esp. 17, 18 between Ft. Dodge and Estherville, Ia.; also 2nd Dist. Milw., Ia. Div. Nos 33 to 36, esp. last run Apr. '52. Will sell 130 size 116, 620 photos. Wants to hear from all M&StL fans.

DOUGLAS E. HUBERT, 3312 Fisher Pl., Seattle, Wash., has many orig., sharp A-1 size 616 negs. Wash. loggers, short lines. Will trade for negs. loggers, short lines, n. g. U. S., Canada.

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(*) GEORGE K. ISAACS, 1 Ryan Dr., Bloomington, Ill., wants photos Westchester street ry. in Westchester Co., N. Y., pref. in White Plains area; will buy or trade for Ill. Term. RR photos size 620. Also wants New York, Westchester & Boston Ry. photos.

(R) ARNOLD B. JOSEPH, 2512 Tratman Ave., New York 61, N. Y., will sell *Railroad Magazines* '30 to '52, *Trains* '41 to '52. Lists, prices for 3c stamp. Also has 38 issues New Haven *Along the Line* for best offer.

GERALD KAPPA, 3536 Lincoln Ave., Chicago, Ill., collects tts., maps, literature, etc. small U. S. rds. Wants only to trade with fellow collectors.

(*) SHELDEN S. KING, R. D. 3, Waterloo, N. Y., will sell *The New York State Rys.* 24 pg. history of trolleys in Roch., Syr., Utica, 50c a copy, p.p.; *The New York State Rys. Pictorial*, 76 photos and roster Roch. city cars, 60c copy, p.p.; 2 booklets, $1., p.p.

ALVIN LEA, 241 Birch St., Wis. Rapids, Wis., wants 3x5 or 3¼x4¼ film pack camera.

RALPH LEY, 135 29th Ave., Lachine, Que., Canada, will trade or sell size 116 CN, CP photos; also some GTW, CNW, diesel, B&M, DH; sells 15 for $1. Also CN, CP size 2¼x2¼ negs., 10c ea. Answers all mail.

(*) J. THOMAS LIDDLE, Jr., 228 Lincoln Ave., Elizabeth, N. J., will sell photos all present, most past operations Lehigh Valley Transit Co.; send 10c for list, sample.

(R) W. R. McGREGOR, 805 4th St., Phillipsburg, Kan., will sell *Railroad Magazines;* many early issues; write for list.

JOSEPH McMAHON, 15 Adrian Ave., New York 63, N. Y., offers *Off. Guides*, '45 to '50, $1. ea. p.p. east of Miss. River.

HAROLD McMICHAEL, Waterford, Ont., Canada, has p. c. negs., steam power to trade.

STANLEY H. MAILER, 2310 W. Lawn Ave., Madison 5, Wis., wants size 616, 116 negs. Soo 2-6-0, 4-6-0; Milw. 98, 30, 31, 32. Wants D&H, AC&HB; will trade Soo, Wab., Milw., CNW, others. Desires contacts in St. Paul, Mpls. area.

WARREN MILLER, 336 Marlow Dr., Oakland 5, Calif., is disposing of collec., has 70 size 616 negs. var. SP stas. for $10.50 to 1st bidder. Also group 100 diff. size 616 negs. var. pass., frt. cars, both n. g., std. gage, few gas-motors, for $25.

(R) DELBERT C. MOORE, 3107 Pickwick Lane, Houston, Tex., will sell *Railroad Magazines, Trains*, '40 to date, most issues; few *Railroad Magazines* '34 to '39, *Model RR* mags., 25c ea.

WM. MURRAY, 406 F St., Martinez, Calif., will buy photos AT&SF steam locos, abdn. 700, 800, 1200, 1300, 1400, 3500 class used on the Calif. Valley Div.

DAVID NEALY, Adrian, Minn., wants S. Kip Farrington's *Railroading from Head End, Railroading from Read End.;* state cond., price.

(R) H. G. OWEN, 269 Fairgrove, Romeo, Mich., will sell 100 back issues *Railroad Magazines* '42 to '53; 100 *Nat'l. Geographic* mags. '37 to '52; 80 *Trains* '43 to '53; all good cond.; make offer. Also brass switch lock, good shape, $2.50; no key.

(R) FRANK A. PUCCI, 1635 N. Spaulding, Chicago 47, Ill., will buy *Railroad Magazines* all '44, '45; Mar., Apr. '46; Mar., July to Sept., Oct., Nov. '47; Jan. '48; Feb. to May, Sept., Nov., Dec. '51; Dec. '52; will pay cash to best offer.

P. G. RICHARD, 106 Park Ave., Muscatine, Ia., will buy recent emp. tts. RI, Milw., CB&Q, CNW, IC, CGW, for Mid West Districts.

HARVEY ROE, 40 Lake Ave., Tarrytown, N. Y., will pay cash for tts. Putnam Div. NYC prior Mar. 14, '31.

(*) GEORGE A. ROUSH, 5235 Beeman Ave., Dallas 10, Tex., wants to contact traction fans who take 8 mm movies street cars, interurbans. Offers to make 50 feet film in Kodachrome, Dallas Ry. & Term. Co. for $5.

FRANK SAARNI, 2245 Curtis St., Berkeley 2, Calif., will buy or trade Southern Pac. p. c. size negs.

(R) JOHN SCHWIEBERT, R. F. D. 1, Box 46, Hamler, O., wants *Railroad Magazines* June, Feb. '51; Jan. '53; also DJ&I photos, info. about 0-6-0, 2-6-0, 4-6-0, 2-10-0, others; write first.

(R*) FRANK M. SEIFFERT, Jr., has *Railroad Magazines* 2, '39, all '40, 9, '41; many photos, negs. size 116, 4x5, 3¼x4¼ ACL, C of Geo., DL&W, FEC, Rutland, Southern, L&NE, others; also juice photos PRT, LVT, T&P, PS (NJ), others; 2 samples, list 25c. Answers all mail.

FRANK SMARZ, 1801 Lincoln Park West, Chicago 14, Ill., wants IC negs., photos, steam or diesel, size 616. Will buy or trade other negs.

(R) J. F. SMITH, 853 N. Lawler, Chicago 51, Ill., will sell 80 *Railroad Magazines* '35 to '49; 25 *Trains* '46 to '49; 44 *Model Builders* '37 to '48, $30. for lot or by mag. groups; 250, 8x10 loco, tr. photos, $40.

(R) WESLEY N. STEAD, Box 592, Effingham, Ill., will pay fair price for Feb., Mar., Apr. '33 *Railroad Magazine;* will buy few photos L&N head-end collision, Wald, Ala., Sept. 29, '32, SP head-end collision, Tortuga, Calif., Sept. 20, '38.

(R) D. J. STICKELS, 170 Park Ave., Torrington, Conn., will sell *Railroad Magazines* '51, $3.50; *Model RR* '47 compl. with index $4.50; *Trains* Vol. 6, 7, unbound $4.50 ea.; all mags. p.p., good cond., unclipped.

EARL STIMPSON, 6 Lombard St., Brunswick, Me., will buy photos, negs. steam engs. SP&S, D&RGW, NE rds.

W. R. SWANSON, 5729 27th Ave., N. E., Seattle, Wash., will trade clear, sharp size 616 negs. GN, NP, SP&S, Northwest shortlines, loggers. Also has old issues *Baldwin Locos, Trains, Model RR* to sell or trade for size 616 or p. c. negs.

(R) D. F. TAYLOR, 21 Chippendale St., London, E. 5, England, will sell *Railroad Magazines* May '38 to May '48, not consecutive; some British publications, *Ry. Gazetts, LMS* mags. List on request; payment nominal to cover postage.

(*) CHARLES H. TEVES, 120 Grove Ave., Verona, N. J., will sell photos New Jersey, New York RR's any size; also will make photos on request RR's in his area; steam, elec., diesel, trolleys. Write for info.

ARTHUR THOMPSON, 973 Clark Ave., San Bruno, Calif., will trade 35 mm Kodachrome slides action steam engs. or rosters. Has large collec. SP cab-forward *Mallets*, 4-8-4s, 4-8-2s, famous Western pass. trs. List for stamped self-addressed env.

F. WADSWORTH, 220 Wentworth St. N., Hamilton, Ont., Canada, will buy photos old-time n. g. locos, abandoned lines, especially. NE&O. DRGW, Colorado Southern.

MAX E. WILCOX, 429 West Ave., Elyria, O., offers over 60 photos Cleve-Southwestern Ry.; will buy photos negs. CSW Ry. List for stamp.

CHARLES K. WILLHOFT, 3555 North 9th St., Milwaukee 6, Wis., will sell photos Milw. Rd., Chicago & Northwestern, few shots other rds., size 616, 122. Send 10c for list, sample.

JULIEN WOLFE, 8100 Bay Parkway, Brooklyn 14, N. Y., wants maps, photos, information on any present subway or El system in the world. Send list and prices, if any.

TED WURM, 122 Monte Vista, Oakland 11, California, will sell *World Railways* '52 to '53 edition, brand new copies, $17.50; '51 edition, $15. *Narrow Gage Rails of Mid-Wales*, just published, $4. Send for list size 616 negs.

MODEL TRADING POST

ROBT. G. ANDERSON, 821 McLean Ave., Yonkers 5, N. Y., will sell *AF* 3/16 scale elec. tr., 2 sets; almost new.

MYRON L. BRAUN, 202 Howard St., Bellevue, O., will sell automobile driving lights, 8-in. sealed beam headlite (2 matched lenses), pre-war chrome, $20. cash or will trade for HO gage loco kit, pref. English *Mikado*.

F. WILLARD BRUINING, 60 E. 102nd Pl., Chicago 28, Ill., wants to buy *Lionel* 0 gage tr. using GG1 eng. 2332, pass. or frt.

W. A. CLARK, Jr., 2 Acton Pl., Annapolis, Md., will sell or trade 5 Vols. 29 *Lionel* mags. Wants *Lionel* 072, No. 708E switcher scale frts., 700E or 763E engs.

(*) FRANK W. COX, 4310 Park Blvd., San Diego 3, Calif., wants old toy trs., catalogs, trolleys, made prior '20. Will trade new tinplate, scale eqpmt. or buy for fair prices.

FRANK DI SANTIS, 13 State St., c/o Y.M.C.A., Schenectady, N. Y., will sell 6 drive wheel castings 8 in. diameter, 1½ scale old crescent counter-balance prototype 64 in. dia., $18.

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Ruptured?

DON'T BE MISLED BY "No Fitting" "Cut Rate" Claims for Relief

GET THE FREE FACTS
on the World-Famous Brooks Rupture Relief Method Before You Act!

ONLY BROOKS GIVES YOU PATENTED

*Air Cushion Support
*Custom Fitting
AT NO EXTRA COST
*Guaranteed Relief
OR YOUR MONEY BACK!

Only Brooks Gives You the Patented AIR-CUSHION Support. The famous Brooks truss-invention is no gadget. It is a time-tested invention that has brought RELIEF TO SUFFERING MEN, WOMEN AND CHILDREN FOR MORE THAN A HALF CENTURY! It is a perfected method of rupture relief that helps Nature support the weakened muscles gently but securely, day and night!

Brooks Can Offer You Such Relief, Such Comfort. The perfected Brooks is sanitary, light-weight and inconspicuous. NO HARD PADS TO GOUGE PAINFULLY INTO THE FLESH . . . NO STIFF, PUNISHING SPRINGS . . . NO METAL GIRDLE TO RUST OR CORRODE . . . NO CANVAS OR CLOTH LEG STRAPS TO CUT AND CHAFE. It's made for you, tailored for you, fitted for you, and designed to bring you the relief that no slipping, chafing, griping truss can offer. It MUST BRING YOU HEAVENLY COMFORT AND SECURITY OR THE TRIAL COSTS YOU ABSOLUTELY NOTHING.

The Brooks Appliance is Custom Fitted for You! Don't be misled by offers that claim to save you pennies on a belt with a pad a man twice your size might wear! The Brooks truss is MADE TO ORDER FOR YOU, only after your order is received—designed for you and no one else. It's your rupture we're worried about—it just makes good common sense that the SUPPORT MUST FIT YOU IF IT IS TO BRING YOU RELIEF!

You Deal Direct With Brooks in Complete Confidence. Beware of imitations and counterfeits. THE GENUINE BROOKS AIR-CUSHION TRUSS IS NEVER "STOCKED" IN STORES, SOLD ON STREET CORNERS OR HOUSE TO HOUSE. You buy direct at the low "maker-to-you" price. All correspondence is confidential, and once you're a Brooks user we acknowledge and take action on any request for possible alterations.

OVER 2 MILLION MEN, WOMEN, CHILDREN HAVE BEEN "CUSTOM FITTED" BROOKS USERS!

In our files we have over 56,000 grateful letters from users who have voluntarily taken the time and trouble to write and thank us for the blessed relief given them by their Brooks appliance.

Anyone Can Afford to Enjoy the Blessed Brooks Relief. Our reputation of over 70 years has been built on uniform standards of quality and price. We do not try to undersell. We recognize the seriousness of ruptures, we encourage you to consult your physician first. He may be a Brooks user himself, or he may be one of the thousands who have recommended them! We have been in business a long time, we know that to continue successfully we must GIVE YOU THE BEST POSSIBLE RUPTURE RELIEF AT THE LOWEST POSSIBLE PRICE.

SEND FOR FREE BOOK ON RUPTURE!

Just clip and send coupon now! Your copy of free book will be sent promptly—in plain envelope. No obligation.

BROOKS APPLIANCE CO.
397-F State St., Marshall, Mich.

Without obligation, please send your FREE BOOK on Rupture, PROOF of Results, and TRIAL OFFER—all in plain envelope.

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State whether for Man ☐ Woman ☐ or Child ☐

62 - Flat car auto-loader.
94 - Curved timber trestle plans (HO).
99. - RR and dock scene.

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